DOCUMENT RESUME

ED 438 033 PS 028 217

AUTHOR	Hand, Ada J.; Nourot, Patricia Monighan
TITLE	First Class: A Guide for Early Primary Education. Preschool-Kindergarten-First Grade.
INSTITUTION	California State Dept. of Education, Sacramento. Div. of Child Development.
ISBN	ISBN-0-8011-1475-6
PUB DATE	1999-00-00
NOTE	204p.
AVAILABLE FROM	CDE Press, Sales Office, California Department of Education, P.O. Box 271, Sacramento, CA 95812-0271 (Item Number 1475, $12.50 plus $4.95 shipping and handling). Tel: 800-995-4099 (Toll Free); Fax: 916-323-0823.
PUB TYPE	Guides - Non-Classroom (055)
EDRS PRICE	MF01/PC09 Plus Postage.
DESCRIPTORS	Classroom Environment; *Curriculum Development; Curriculum Guides; *Developmentally Appropriate Practices; Early Childhood Education; *Elementary School Curriculum; Evaluation; Instruction; Instructional Development; *Preschool Curriculum; School Schedules; Teaching Guides; Teaching Methods
IDENTIFIERS	California

ABSTRACT

Focusing on the argument that early childhood education plays a crucial role in children's future success, this guide provides information to educators about development-based education that leads to active and productive learning for children ages 4 through 6. The guide provides examples for planning and organizing classroom environments, scheduling the day's activities, guiding interactions between children and adults, and planning challenging curriculum and assessment activities. Chapter one, "Guiding Principles for Quality Early Primary Programs," focuses on models of child development and explanations of development-based education. Chapter two, "Planning Environments for Early Primary Programs," addresses the importance of environment and physical space in meeting children's needs. Chapter three, "Scheduling the Day in the Early Primary Program," addresses the need to balance classroom activities in the daily schedule, while chapter four, "Planning Classroom Instruction and Management," focuses on the goals of quality learning and managing inevitable issues that arise in the classrooms of young children. Chapter five, "Applying Child Development Principles to Curriculum," addresses specific areas of study and how they fit into the education of young children. Chapter six, "Planning an Integrated Early Primary Program," addresses incorporation and integration of diversity, special services, and teaching strategies into the program. The guide's four appendices address specific issues of reading, writing, assessment, and working with English language learners. (Contains approximately 350 references.) (SD)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 438 033

First Class

A Guide for Early Primary Education

PRESCHOOL-KINDERGARTEN-FIRST GRADE

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☒ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY
C. Robinson
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

California Department of Education
Sacramento, 1999

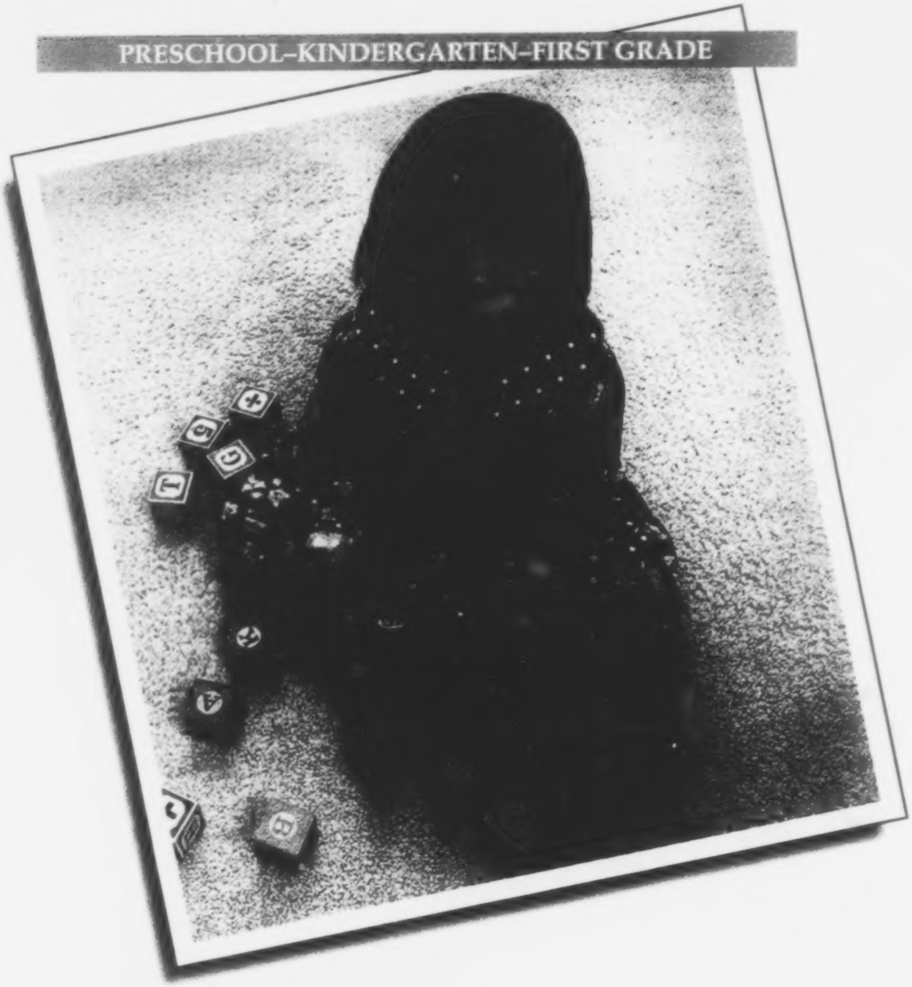
PS 028172

BEST COPY AVAILABLE

First Class

A Guide for Early Primary Education

PRESCHOOL–KINDERGARTEN–FIRST GRADE



CHILD DEVELOPMENT DIVISION/
ELEMENTARY EDUCATION DIVISION

California Department of Education

Authors: Ada J. Hand and Patricia Monighan Nourot

Publishing Information

First Class: A Guide for Early Primary Education, Preschool–Kindergarten–First Grade was developed by the Child Development Division and the Elementary Education Division, California Department of Education. This publication was edited by Janet Lundin. It was prepared for printing by the staff of CDE Press. The cover and interior design were created and prepared by Juan Sanchez. Typesetting was done by Gloria Barreiro and Jeannette Huff. The document was published by the Department, 721 Capitol Mall, Sacramento, California (mailing address: P.O. Box 944272, Sacramento, CA 94244-2720). It was distributed under the provisions of the Library Distribution Act and *Government Code* Section 11096.

© 1999 by the California Department of Education
All rights reserved

ISBN 0-8011-1475-6

Ordering Information

Copies of this publication are available for $12.50 each, plus shipping and handling charges. California residents are charged sales tax. Orders may be sent to CDE Press, Sales Office, California Department of Education, P.O. Box 271, Sacramento, CA 95812-0271; FAX (916) 323-0823. See page 202 for further information on payment, including credit card purchases. Prices on all publications are subject to change.

A partial list of other educational resources available from the Department appears on page 201. In addition, an illustrated *Educational Resources Catalog* describing publications, videos, and other instructional media available from the Department can be obtained without charge by writing to the address given above or by calling the Sales Office at (916) 445-1260.

Notice

The guidance in *First Class: A Guide for Early Primary Education, Preschool–Kindergarten–First Grade* is not binding on local educational agencies or other entities. Except for the statutes, regulations, and court decisions that are referenced herein, the document is exemplary, and compliance with it is not mandatory. (See *Education Code* Section 33308.5.)

Prepared for publication
by CSEA members

BEST COPY AVAILABLE

Contents

Preface v

Acknowledgments vi

Introduction 1

Chapter 1 **Guiding Principles for Quality Early Primary Programs** 5
- Theoretical Models of Children's Development 6
- Definition of Development-Based Education 7
- Principles of Development-Based Education 7
- Interrelationships Among the Principles 11
- Recent Research 11

Chapter 2 **Planning Environments for Early Primary Programs** 13
- Using the Environment to Meet Children's Needs 13
- Using the Physical Space to Promote Teaching and Learning 14

Chapter 3 **Scheduling the Day in the Early Primary Program** 19
- Taking the Child's Eye View and Teacher's Eye View 19
- Balancing Classroom Activities 20
- Scheduling Early Intervention 21
- Orchestrating the Rhythm of the Day 22
- Planning Sample Daily Schedules 24

Chapter 4 **Planning Classroom Instruction and Management** 27
- Using Knowledge of Child Development to Support Learning 27
- Identifying Goals for Young Children's Learning 29
- Understanding the Role of Play in Early Primary Programs 31
- Understanding Status in the Peer Culture 33
- Considering Mixed-Age Grouping in Early Primary Programs 34
- Planning for Discipline in Early Primary Programs 34
- Understanding the Roles of the Teacher 37

Chapter 5 **Applying Child Development Principles to Curriculum** 39
- Incorporating Standards into Educational Programs for Young Children 39
- Reading–Language Arts for Young Children 43
- Intervention 65
- Health and Physical Education for Young Children 69
- History–Social Science for Young Children 75
- Mathematics for Young Children 81
- Science for Young Children 89
- The Visual and Performing Arts for Young Children 95

Chapter 6 Planning an Integrated Early Primary Program 101
Incorporating Thematic Learning 102
Integrating Diversity into the Curriculum 107
Using Whole-Group Teaching Strategies 111
Providing Special Services 111
Nurturing School and Community Partnerships 112

Appendixes

A. Reading

Developing Phonemic Awareness in Young Children 117
Teaching Reading 125
Maximizing Literacy in the Classroom 131
Learning and Using Phonics in Beginning Reading 133
Onsets/Rimes 141

B. Writing

Stages of Writing Development 145
Overview of Writing as a Process 147
Interactive Writing 149

C. Assessment

Sample Observation Recording Forms 153
The Learning Record 155
A Test for Assessing Phonemic Awareness in Young Children 163
Monitoring and Evaluating Children's Reading 173

D. English Language Learners

Phonics for Spanish Speakers 181
Multilingual and Multicultural Resources 183

Selected References 185
Index 199

6

Preface

We now know that the developmental opportunities, including education, that children receive in their first years of life largely determine their chances for success in later life. To help educators provide the best possible education experience, *First Class: A Guide for Early Primary Education* describes an effective early primary program. This guide, which is based on the premise that *connections* are particularly important during children's early years, outlines how to forge these linkages.

Important research has revealed that the period from birth to age six is a crucial time in brain development, when many important *connections* are made. The developmental experiences children have before the age of six are keys to full brain development and a strong early primary education program allows students to flourish.

Further, solid *connections* between preschool, kindergarten, and early primary grades are also crucial. We all need to work together to ensure that smooth transitions occur in the early years. Education is a continuum, and *First Class* describes this progression, using examples of effective curricular, instructional, and assessment strategies and citing the research that supports these practices in all subject areas.

First Class incorporates many of the recommendations found in reports from previous California Department of Education task forces, including *Here They Come: Ready or Not*, *It's Elementary*, and *Ready to Learn*. *First Class* also incorporates guidelines found in California's content standards and curriculum frameworks adopted in 1997 and 1998, respectively, by the California State Board of Education.

Legislation enacted in 1998 (Chapter 807, *Education Code* Section 44259.3) calls for the Commission on Teacher Credentialing to review credential requirements to ensure that teachers of the elementary grades receive training on developmentally appropriate teaching methods for students in kindergarten through grade three. This knowledge should result in success for and progress by all students in meeting the expected standards for each of those grade levels by the end of the school year.

If we focus on the principles and practices presented in *First Class*, we will help all students to be ready to learn and ready to achieve high standards that will enable them to succeed in the twenty-first century.

I hope you find this guide to be a useful tool.

Delaine Eastin

State Superintendent of Public Instruction

Acknowledgments

The Child Development Division of the California Department of Education initiated *First Class* to build on the Department's previously published document, *Here They Come: Ready or Not!* The Elementary Education Division staff of the Department provided significant assistance on early elementary school issues. The purpose of *First Class* is to provide guidance to teachers of preschool, kindergarten, and first grade on children's social, emotional, physical, and cognitive development as well as on appropriate curricular and instructional practices for children ages four through six. Many people contributed to the preparation of this document. The editorial efforts, collegial critiques, and classroom stories received from early childhood educators throughout the state regarding the development of this document are sincerely appreciated.

Writers

Ada J. Hand, Education Programs Consultant, California Department of Education and **Patricia Monighan Nourot,** Professor of Education, Sonoma State University

Contributors

Special contributors include Jan Bandich, Riverside County Office of Education; Judith Van Hoorn, University of the Pacific; Gail Mon Pere, Ukiah Unified School District; Adrienne Herrell, California State University, Fresno; and Judith Wilson, San Joaquin County Office of Education and California K-12 Alliance. Editing assistance was provided by Marilyn Astore, Sacramento County Office of Education, and Hallie Kay Yopp, California State University, Fullerton. Early primary educators, administrators, professors of early childhood education, and California Department of Education staff contributed to the text, vignettes, and editing.

Special recognition is given to Robert Agee, Barbara Metzuk, Virginia Benson, Susan Thompson, Kay Witcher, Robert Cervantes, and Jan Agee, all of whom guided the document through its early stages; to Rose Loyola, who edited later drafts of the document; and to Barbara Baseggio and Michael Silver, both of whom provided leadership for its final form.

Introduction

Those who want to leave an impression for one year should plant corn. Those who want to leave an impression for ten years should plant trees. Those who want to leave an impression for a hundred years should educate a human being.

Ancient Chinese Proverb
(*The Heart and Wisdom of Teaching* 1997)

Because early childhood education plays such a crucial role in children's future success, it is important for every teacher of young children to be fully informed on current research and practices and know how to implement an appropriate program. The report of the Universal Preschool Task Force, *Ready to Learn—Quality Preschools for California in the 21st Century* (1998), recommends that quality preschool programs be universally available to all and that program and professional standards for preschool providers be raised. A previously published California Department of Education document—*It's Elementary!*—called for students to experience a rich learning environment that recognizes the unique backgrounds and experiences each student brings to the classroom. *First Class: A Guide for Early Primary Education* is intended to assist with these efforts.

To better teach young children, educators of preschool through grade one requested additional information on the relationship of child development theory to curriculum content. They asked, "How do these teaching methods mesh with achieving high standards for all children? What works with young children? What do the research studies say? What do these methods of teaching *look* like in classrooms for young children?"

First Class was developed to help educators reflect on and solve those questions. The purpose of this publication is to provide information to educators about development-based education that leads to active and productive learning for children ages four through six. Principles of development-based education guide knowledgeable professionals in how young children develop and learn. They use these principles to make informed decisions on the teaching of young children. This guide provides examples for planning and organizing classroom environments, scheduling the day's activities, guiding interactions between children and adults, and planning challenging curriculum and assessment activities.

Another inspiration for *First Class* came from responses by early childhood educators following the release of several California Department of Education publications that called for developmentally appropriate instructional practices and challenging, meaningful learning experiences. These departmental publications, which encourage teachers to think more deeply about their curriculum and instructional practices, are:

- *Continuity for Young Children: Positive Transitions to Elementary School* (1997)
- *Every Child a Reader: The Report of the California Reading Task Force* (1995)
- *Here They Come: Ready or Not! Report of the School Readiness Task Force* (1988)
- *Improving Mathematics Achievement for All California Students: The Report of the California Mathematics Task Force* (1995)
- *It's Elementary! Elementary Grades Task Force Report* (1992)
- Program Advisories, "Educating Young Children" and "Appropriate Assessment Practices for Young Children" (1989, 1992)
- *Ready to Learn: Quality Preschools for California in the 21st Century* (1998)
- *Teaching Reading: A Balanced, Comprehensive Approach to Teaching Reading in Prekindergarten Through Grade Three* (1996)

Other sources of inspiration for this guide are the California standards (in English–language arts, mathematics, science, and history–social science) and curriculum frameworks (in mathematics, science, reading/language arts, history–social science, visual and performing arts, health, and physical education). Each framework offers guidance for planning a core curriculum in a particular subject area for various school grades. However, *First Class* is intended to be inclusive; that is, to include all aspects of teaching and learning that affect young children's cognitive, social, emotional, and physical growth and development. In addition, *First Class* references national standards that have been and are being developed in the various subject areas.

Local, regional, and statewide efforts to make reading the highest priority and to improve student achievement are taking place, inspired by *Every Child a Reader* (1995). Recommendation 6 of this report of the California Reading Task Force includes these statements: "Every early childhood teacher must be fully informed on beginning reading research and practices and know how to implement an appropriate program" and "the California Department of Education should develop a strong collaboration between preschool and K–12 curriculum reform efforts . . ." (*Every Child a Reader* 1995, p. 9). This guide provides information on topics of mutual interest, especially in the area of early literacy, for early childhood educators.

Children in California's early primary programs come from a mixture of ethnic, cultural, and linguistic backgrounds. Almost one-third of the incoming kindergarten children speak a language other than English at home. About half of the children have attended a preschool-age program, while other children will enter kindergarten without that group experience. Despite these contrasts, the expectation, as stated in the *National Education Goals Report* (1997), is that all children will start school ready to learn. Teachers and the educational community must be ready to teach every child and to plan their programs to ensure that no child "slips through the cracks" and that the child achieves academically, physically, socially, and emotionally.

As teachers become informed about the similarities in development and learning of preschoolers, kindergartners, and first graders, they will be encouraged to follow *First Class* and the documents named above to plan a curriculum that enables all children to achieve high standards. Teachers will understand more clearly how development and learning proceed along a continuum of complexity. Although not all children are expected to experience each step of the journey in quite the same sequence or manner, knowledge about child development will guide teachers to plan challenging, realistic goals and experiences; to prepare an appropriate learning environment; and to make decisions about all aspects of children's care and education.

While this document may be of interest to others, it is written primarily for educators who teach in and administer early primary programs, although day care home providers will also find much material to help them work with children. This document uses the term *preschool* to refer to any group setting outside the home provided for children the year prior to kindergarten. Preschool teachers often use *group, center,* or *setting* to describe areas that kindergarten and first grade teachers call *classrooms.* The authors use these terms interchangeably to refer to the indoor and outdoor space available to teachers and children. The term *teacher* or *educator* is used to designate any adult on the staff with formal education who works with children. The terms *children* and *students* are also used interchangeably to refer to four- through six-year-olds. The authors use the term *development-based education* in place of the term *developmentally appropriate practice.*

Throughout *First Class: A Guide for Early Primary Education,* readers are invited to view the process and products of learning in two developmentally based classrooms. Rosa, a preschool teacher, and Joe, a kindergarten and first grade teacher, share their reflections about teaching and learning and their visions for an early primary program. They illuminate some of their challenges and show how professional development occurs through study, reflection, and ongoing dialogue in an atmosphere of professionalism, support, trust, and critical thinking.

It is hoped that teachers of young children will find this document helpful as they structure learning environments and provide experiences for children to reach high standards in an active, involved way. As a further help to teachers, the format of this document is designed so that teachers may file related materials in appropriate sections. In addition, research citations are provided so that the reader may obtain source documents and use them in his or her professional development.

CHAPTER 1

Guiding Principles for Quality Early Primary Programs

A preschool teacher, Rosa, and a kindergarten/first grade (K/1) teacher, Joe, are part of a district team planning the design for a future early childhood education complex. As they reflect on their philosophies of teaching and learning, they will recommend an ideal environment for early primary teachers and children.

The town in which Rosa and Joe teach was formerly a farm-based community that recently experienced an influx of Latin American and Asian immigrants. Small businesses have sprung up in the community's economically depressed downtown. Outside the downtown section are dairy farms and fruit orchards where parents of many of the students work. Recently, some orchards were developed into housing tracts for families with commuting parents. Their children spend many hours in child care programs.

The elementary school has a preschool-age child development program and an after-school program. Rosa, an experienced teacher, began her career as a teacher's assistant. After earning a child development permit, she was hired as a teacher in the preschool, which is currently housed in a modular building purchased with child development funds. Twenty-four students are enrolled in either a morning or afternoon class, each class having one teacher and two assistants. Joe has taught for five years. After teaching kindergarten for one year, he "looped" into first grade with his students. His current K/1 class has 6 kindergartners and 14 first graders. Occasionally, parent and community volunteers work with Joe's students in learning centers.

This guide takes a particular view about the purposes of education, the nature of young children and their learning, and the roles of teachers. These ideas of development-based education have a long history in education. Johann Pestalozzi, an educator during the early

1800s, advocated that children learn through their play. Emphasizing pleasant surroundings, self-activity, and physical training for children, Friedrich Froebel in 1837 created the kindergarten as "a garden of children" for early schooling. The present-day early childhood classroom has its roots in the materials and philosophy of Maria Montessori; in the concepts of John Dewey and Lucy Sprague Mitchell; and in the theories regarding the nature of learning appearing in the more recent works of Jean Piaget, Lev Vygotsky, Erik Erikson, Jerome Bruner, Kelvin Seifert, and Robert Siegler.

Theoretical Models of Children's Development

Twentieth century theories about how children learn can be categorized into three general theoretical models: maturationist, behaviorist, and interactionist, all of which have implications for the classroom (*A Guide to Program Development in Kindergarten* 1988).

Maturationist

A central tenet of maturationist theory is that knowledge exists within the child; that is, through the "unfolding" of innate capacities, the child's understanding of the world becomes apparent. Development, therefore, is the maturing of programmed patterns of behavior. Maturationists believe that a child acquires knowledge from external sources only as maturation creates readiness for it. The maturationist teacher functions primarily as an observer to determine signs of development and as a provider of an environment that places few demands on the child. Using an example of block building, a maturationist teacher refrains from interfering, knowing that the building will become more complex as the child matures. From 1900 until the 1950s, ideas about teaching young children were influenced by maturationists such as Hall and Gesell.

BEST COPY AVAILABLE

Behaviorist

Behaviorists believe that knowledge exists outside the child and is acquired piece by piece as the child masters a sequence of skills and subskills. Development consists of progressive changes in the child's observable behavior as shaped by the environment over time. A behaviorist teacher's function is to plan, carry out, and evaluate instruction and to provide appropriate reinforcement for learning and behavior so that the child produces the correct response. The previous example of block building is not typically an integral part of a behaviorist classroom, but this activity may be used as a reward when children finish the tasks assigned by the teacher. If a child experiences difficulty in building, the teacher may intervene to demonstrate how to do it successfully. Behaviorism flourished in the 1950s, influenced by Gagné and Skinner.

Interactionist

A tenet of the interactionist theory is that knowledge, which exists both in the child and in external reality, is constructed by the child through interactions with the physical and social environment. Development progresses through several qualitatively distinctive stages as a child, recognizing the dissonance between present constructs and new data, is motivated to inquire and to extend understanding and skill. The role of the interactionist teacher is seen as guiding individual inquiry and providing an environment conducive to interaction. An interactionist approach—not in and of itself a learning theory, but a general overview of methods of instruction—combines aspects of both maturationism and behaviorism. Children's play with blocks is presumed to reflect children's current understanding of spatial relationships, quantity, and social reality. The teacher observes a child's attempt to build new structures, questions or summarizes the effort, and helps the child formulate a solution. Influential developmental psychologists and educators are Piaget, Kohlberg, Erikson, Chomsky, and Vygotsky as well as the information-processing theorists studying short- and long-term memory ability and use of cognitive strategies in young children (Siegler 1983; Seifert 1993).

Finding strengths and ideas in one approach or theory need not preclude finding other, different strengths and ideas in other approaches (Seifert 1993). Recent research, such as that on brain development, is contributing to new understanding about early childhood education (*Delivering Results* 1996; Shore 1997).

Because individual differences are so great and growth profiles are so diverse, teachers of young children must understand their ranges and patterns of development. These patterns are presented more fully in later chapters.

Definition of Development-Based Education

Development-based education is the result of educators making decisions about the learning and well-being of children according to at least four kinds of knowledge: human development and learning, individual characteristics and experiences, social and cultural contexts, and standards or learning expectations. A further explanation is that knowledgeable early childhood teachers' decision making takes into consideration the following:

- An understanding of the developmental changes in children's growth and learning that typically occur during the years from birth through age eight and beyond;
- A realization that variations in development may occur, according to a child's strengths, interests, needs, and experiences;
- A cognizance of the best ways in which to support children's learning and development during these years so that education, while building on children's social and cultural backgrounds, is safe, challenging, and achievable; and
- An understanding of the continuum of grade-level standards or learning expectations and appropriate teaching strategies that lead to children's success.

Development-based education relies on a set of principles that are summary statements about how children develop and learn physically, emotionally, socially, and cognitively (see the following section on this page). Development-based education is not a cookie-cutter, lockstep program because it is neither a curriculum nor an exact prescription with hard-and-fast rules about particular children or situations. Professional early childhood educators use the principles of development-based education to examine materials, practices, and environments and to plan a program that maximizes children's academic, physical, social, and emotional development.

Principles of Development-Based Education[1]

Because development and learning are so complex, no one theory of education is sufficient to explain learning completely. Nevertheless, a broad-based review of the literature on early childhood education generates a set of general principles to inform early childhood practitioners. The principles are sufficiently reliable that they should be taken into account when decisions are being made and they provide a frame of reference and a common language for dialogue about how children develop and learn. The principles guide teachers in structuring learning environments and experiences for children's active and productive learning. They also serve as a lens through which educators view situations and make decisions about students.

The principles embodied in development-based education are supported by recent research studies that document how children develop and learn. An original position statement about developmentally appropriate practice was developed in 1988 by the National Association for the Education of Young Children (NAEYC) and was endorsed by many educational organizations, including the National Education Goals Panel, U.S. Department of Education, National Association of Elementary School Principals, National Association of State Boards of Education, Children's Defense Fund, National Art

---

[1] Adapted by permission from S. Bredekamp and C. Copple 1997, pp. 10-15. *Developmentally Appropriate Practice in Early Childhood Programs* (Revised edition). Washington, D.C.: NAEYC. Copyright © by the National Association for the Education of Young Children. Sources cited indicate research studies that support certain concepts.

BEST COPY AVAILABLE

Education Association, Association for Childhood International, Association for Supervision and Curriculum Development, National Council of Teachers of Mathematics, American Association of School Administrators, and National Association of Early Childhood Specialists in State Departments of Education. Using information gained from a review of recent research studies, written critiques of the positions, and the solicitation of recommendations from educators across the country, NAEYC revised its original position statement (1997).

Included in the NAEYC statement are the following guiding principles:

1. *Domains of children's development—physical, social, emotional, and cognitive—are closely related.* Development in one domain can limit, facilitate, or influence development in other domains (Sroufe, Cooper, and DeHart 1992; Kostelnik, Soderman, and Whiren 1993). Because the domains are interrelated, curriculum planning is critical to help young children make meaningful connections across domains and across related subject-matter disciplines.

2. *Development occurs in a relatively orderly sequence, with later abilities, skills, and knowledge building on those already acquired.* Research studies indicate that relatively stable, predictable sequences of growth and change occur in children during the first nine years of life (Piaget 1952; Erikson 1963; Dyson and Genishi 1993; Case and Okamoto 1996). Predictable changes occur in all domains of development—physical, emotional, social, language, and cognitive—although the ways in which these changes are manifest and the significance attached to them may vary in different cultural contexts.

3. *Development proceeds at varying rates from child to child as well as unevenly within different areas of each child's functioning.* Each child is unique, with an individual pattern and timing of growth and an individual personality, temperament, learning style, and family and life experiences. Age is only a crude index of developmental maturity. Recognition that individual variation is expected and valued requires that educators, while having high expectations and standards for all children, be flexible in the ways in which students reach these expectations. Rigid group-norm expectancies can be especially harmful for children with special learning and developmental needs (*National Education Goals Report* 1991; Mallory 1992; Wolery, Strain, and Bailey 1992).

4. *Early experiences have both cumulative and delayed effects on a child's development; optimal periods exist for certain types of development and learning.* If an experience occurs occasionally, it may have a minimal effect; but positive or negative experiences occurring frequently can have powerful, lasting effects (Katz and Chard 1989; Kostelnik, Soderman, and Whiren 1993; Wieder and Greenspan 1993). For example, when children have or do not have early literacy experiences, such as being read to regularly, their later success in learning to read is affected accordingly. Recent research studies on brain development (Shore 1997) are also contributing to this knowledge base by showing critical intervention periods and experiences.

5. *Development proceeds in predictable directions toward greater complexity, organization, and internalization.* Learning during the early childhood period proceeds from the concrete to the abstract (Bruner 1983). The earliest form of symbolic representation in childhood is play, which begins at about eighteen months of age and becomes increasingly complex through the primary years. Children learn to use their imagination and mental imagery to represent ideas, objects, and situations; for example, the block of wood "stands for" the telephone.

6. *Development and learning occur in and are influenced by multiple social and cultural contexts.* Children's development is best

understood within the sociocultural context of the family, educational setting, community, and broader society (Vygotsky 1978; Bronfenbrenner 1979; Forman, Minick, and Stone 1993). These various contexts are interrelated and have an impact on the developing child. For example, a child in a loving, supportive family within a healthy community may be affected by the biases of the larger society, such as racism or sexism, and may show the effects of negative stereotyping.

Culture is defined as the customary beliefs and patterns of and for behavior, both explicit and implicit, that are passed on to future generations by the society they live in and/or by a social, religious, or ethnic group within it. Therefore, culture plays a role in the development of all children. Sensitive teachers realize that their own cultural experience shapes their perspective and that multiple perspectives, in addition to their own, must be considered in planning programs for children (Bowman 1994). The goal is that all children learn to function well in the society as a whole and move comfortably among groups of people who come from both similar and dissimilar backgrounds. For maximum social development, children must be provided with opportunities to expand language in positive ways as they interact with other children and adults.

7. *Children are active learners, drawing on direct physical and social experience as well as on culturally transmitted knowledge to construct their own understandings of the world around them.* Children learn as they actively strive to make meaning out of their daily experiences, observations, and interactions with materials, children, and adults (Dewey 1916; Piaget 1952; DeVries and Kohlberg 1990; Gardner 1983). After children have formed their own hypotheses about life around them, they observe and reflect on their observations, ask questions, and formulate answers. When children's models are challenged by new experiences, they adjust the models or alter their mental structures to account for the new information. Teachers' encouragement of children to reflect on their experiences and activities deepens their knowledge and understanding (Copple, Sigel, and Saunders 1984).

   In recent years, discussions of cognitive development have become polarized regarding whether children's development precedes learning or whether learning precedes development. Current attempts to resolve this apparent dichotomy acknowledge that *both* theoretical perspectives are essentially correct in explaining aspects of cognitive development during early childhood (Seifert 1993; Sameroff and McDonough 1994). Strategic teaching can enhance children's learning; yet direct instruction may be ineffective if it is not attuned to the cognitive capacities and knowledge of each child at that point in development.

   Because active learning is time intensive, group instruction and student-choice periods need to be long enough for children to handle and observe materials, have in-depth intellectual experiences, negotiate problems, and use language. When children are truly engaged, even young children have long attention spans. The teacher's challenge is to provide experiences that relate well to each child but are also novel.

8. *Development and learning result from the interaction of biological maturation and the environment, which includes both the physical and social worlds that children live in.* Human beings are influenced by heredity and environment, both of which are interrelated. Current theory is that development is the result of an interactive process between the growing, changing individual and his or her experiences in the social and physical worlds (Scarr and McCartney 1983; Plomin 1994a,

1994b). For example, a disability—inherited or environmentally caused—may be ameliorated through systematic, appropriate intervention. The teacher does not wait for children to mature or "be ready" for particular skills, concepts, or knowledge, but instead stimulates development through rich, organized, appropriate activities and environment and through time for children's reflection about these experiences.

9. *Play is an important vehicle for the social, emotional, and cognitive development of children and a reflection of their development.* Play gives children opportunities to understand the world, interact with others in social ways, express and control emotions, develop their symbolic capabilities, practice newly acquired skills, solve complex problems, develop their imagination, and extend language (Piaget 1952; Vygotsky 1978; Fein 1981; Fein and Stork 1981; Smilansky and Shefatya 1990; Fromberg 1992; Van Hoorn et al. 1993). Research studies demonstrate the importance of sociodramatic play as a tool for learning curriculum content with four- through six-year-old children. Children's language and literacy skills can be enhanced when teachers provide a thematic organization for play; offer props, space, and time; and become involved in the play by extending and elaborating on the children's ideas (Levy, Schaefer, and Phelps 1986; Schrader 1989, 1990; Morrow 1990; Levy, Wolfgang, and Koorland 1992).

10. *Development advances when children have opportunities to practice newly acquired skills and when they experience a challenge just beyond the level of their present mastery.* Research studies demonstrate that children should negotiate learning tasks successfully *most* of the time if they are to maintain motivation and persistence (Lary 1990; Brophy 1992). Faced with repeated failure, many children stop trying. Most of the time, teachers should give young children tasks that require effort to accomplish and present content at the children's level of understanding. At the same time, young children need opportunities to work at their "growing edge" (Berk and Winsler 1995; Bodrova and Leong 1996). In giving a child a task just beyond his or her independent reach, the adult and more competent peers contribute significantly to a child's development as they provide "scaffolding," or a supportive structure that allows the child to take the next step (White 1965; Vygotsky 1978). For example, two children play with a peg board with pegs of graduated heights. One discovers and shows her friend that the pegs can be inserted like steps. They take out the pegs, and the second child successfully arranges them sequentially from shorter to taller.

11. *Children demonstrate different modes of knowing and learning and different ways of representing what they know.* Human beings come to understand the world in many ways and have preferred modes of learning and expressing that learning. Research studies by learning theorists and developmental psychologists have described children's use of various modalities to learn (Witkin 1962; Gardner 1983). While the classroom environment and curriculum should be individualized to maximize the various intelligences, this approach should not be interpreted to mean that every classroom lesson should necessarily represent all modes of learning.

12. *Children develop and learn best in the context of a community where they are safe and valued, their physical needs are met, and they feel psychologically secure.* For young children school becomes a home away from home. Optimum development will occur when teachers create an environment in which the children and their families feel welcome, loved, and accepted and where all children's approaches to materials, ideas, and people are respected (Ramsey 1987).

Because children's physical health and safety are too often threatened in society, schools should work with other agencies to ensure that children have adequate health, safety, nutrition, mental health, and social services to optimize their development (*Caring Communities* 1991; *Head Start Performance Standards* 1996).

To plan and provide an environment in which children of all ages learn to feel safe and respect others, teachers plan activities that encourage children to see themselves as productive members of society, to see others' points of view, to cooperate with others, and to confront discrimination and injustice. Crucial to the success and validity of a comprehensive approach to valuing diversity is the teacher's attitude of respect for the cultures of those in the classroom and communication with families.

Interrelationships Among the Principles

Reactions by some to the earlier 1988 NAEYC position statement on developmentally appropriate practice reflected a recurring inability to deal with paradox (two statements that appear to be contradictory but are nevertheless true). This situation resulted in a tendency to polarize discourse on education, focusing on ***either/or*** statements when it is more beneficial to discuss ***both/and*** statements. For example, children in the early grades need ***both*** phonics instruction ***and*** whole language techniques rather than either one or the other. The following examples draw on ***both/and*** thinking to convey the complexity and interrelationships necessary to guide instructional practice with young children:

- Children construct their own understanding of concepts, ***and*** they benefit from receiving instruction from adults and more competent peers.
- Children benefit from opportunities to see connections across disciplines through integration of curriculum ***and*** from opportunities to engage in in-depth study within a content area.
- Children benefit from predictable structure and orderly routine in the learning environment ***and*** from teachers' flexibility and spontaneity in response to their emerging ideas, needs, and interests.
- Children benefit from opportunities to make meaningful choices about what they will do and learn ***and*** from a clear understanding of the boundaries within which choices are permissible.
- Children benefit from situations that challenge them to work at the edge of their developing capacities ***and*** from ample opportunities to practice newly acquired skills and to acquire the disposition to persist.
- Children benefit from opportunities to collaborate with their peers and acquire a sense of being a part of a community ***and*** from the experience of being treated as individuals with their own strengths, interests, and needs.
- Children need to develop a positive sense of their own self-identity ***and*** respect for other people whose perspectives and experiences may differ from theirs.
- Children have enormous capacities to learn and almost boundless curiosity about the world, ***and*** they have recognized, age-related limits on their cognitive and linguistic capacities.
- Children benefit from engaging in self-initiated, spontaneous play ***and*** from participating in teacher-planned and teacher-structured activities, projects, and experiences.

Teachers' discussions about paradox enable them to make more effective decisions about educational practice.

Recent Research

Ongoing discussion about development-based education continues to be guided by new and continuing research, some of which has been summarized by Dunn and Kontos (1997). Their summary highlighted one study (Charlesworth et al.

BEST COPY AVAILABLE

1993), which found that although teachers may endorse this pedagogy, lack of ongoing professional development thwarts effective implementation. Dunn and Kontos also cite studies showing that in those classes and centers using developmentally appropriate practices, a positive classroom climate conducive to children's healthy emotional development exists. In addition, children exhibit less stress and higher levels of motivation to learn in classrooms in which developmentally appropriate techniques are the foundation for instruction.

In terms of cognitive development, the use of developmentally appropriate instructional strategies appears to facilitate children's creativity, is associated with better verbal skills and receptive language, and contributes to higher levels of cognitive functioning. A number of studies of children attending developmentally appropriate kindergarten through grade two classrooms indicate higher achievement scores. Other studies suggest that children who experience developmentally appropriate programs continue to benefit academically in subsequent years as well. Because of the relatively recent information and research about development-based education, parents and community members need clear information about its use and benefits.

This chapter summarizes principles of development-based education for teachers of early primary children. The notion of development-based strategies does* not *mean that children are left to explore and experiment with materials without careful teacher preparation. Rather, the teacher's role is critical in planning, observing, and guiding learning through direct instruction, environmental support, appropriate materials, and thoughtful questioning strategies. These roles are elaborated on in subsequent chapters.

BEST COPY AVAILABLE

CHAPTER 2

Planning Environments for Early Primary Programs

The environment includes all of the external factors that influence the relationships among teachers and children, such as room size, storage space, access to outdoors, and furniture design. The physical environment affects all aspects of the curriculum and helps children manage their behavior (*The Form of Reform* 1997; Harms and Clifford 1980; Vergeront 1988a,1988b; *Exemplary Programs Criteria* 1992). The environment also includes structuring time (Chapter 3), assigning roles (Chapter 4), establishing expectations for behavior (Chapter 4), and selecting materials for exploration (Chapter 5).

Using the Environment to Meet Children's Needs

An environment that provides periods of and locations for active work and play, as well as quiet or solitary activities, meets children's physical needs and contributes to fostering feelings of safety and security. Self-respect and respect for others are supported in an environment that allows young children to concentrate on their play and to work without disruption. Cooperation and responsibility are encouraged in a classroom in which everything has a place; adequate materials are arranged attractively; and rooms are labeled with pictures or words or both to help children select desirable materials for activities and return them easily (Jones 1973).

Another aspect of the environment is that sizes of groups and the extent of crowdedness affect interactions among children. The effects of these conditions differ in some cultures. For example, some preschoolers may not play in a housekeeping area limited to only four children, but instead may feel more at home when more children are allowed.

Using the Physical Space to Promote Teaching and Learning

The following criteria are considered by persons planning the class environment:

1. *Adequate space to learn.* When children are not crowded, their initiative and attentive behavior increase. Generally, kindergarten and first grade classrooms should provide at least 1,350 square feet and 960 square feet, respectively (including table and floor space). Preschool licensing requires 35 unencumbered square feet per child indoors and 75 square feet per child outdoors. (See the *California Code of Regulations, Title 5, Education,* sections 14030[g][1] and 14030[h][2].) Fixed features—such as the sink, doors, immovable playground equipment, and windows—determine some, but not all, placement decisions. Semifixed features—such as chairs, easels, movable shelves, and rugs—take up space but are movable and offer flexibility in arranging materials to invite children to work and play. Certain arrangements encourage discussion and cooperation, such as L-shaped tables or several chairs at the computer. Class-size reduction may help early childhood educators take advantage of space (*The Form of Reform* 1997).

2. *A responsive environment that provides "cues" and physical security.* Clear boundaries separate learning areas; pathways between those areas promote children's self-regulation (Kritchevsky, Prescott, and Walling 1977). Large spaces are necessary for whole-group movement and some language activities, while small spaces may be more suitable for conversation, concentration, and completion of tasks. Children's physical well-being is also enhanced by the use of carpeting, pillows, and forgiving surfaces under playground equipment.

   Daniel arrives at school after a recent hospital stay, wearing heavy leg and hip braces that force his legs apart. His ambling movement results in collisions with furniture and people. After a class discussion, Joe's students decide to move out all furniture temporarily, except for three round tables, twenty chairs, and four semifixed shelves needed to store materials. This change leaves wide pathways for Daniel to negotiate. Joe later discusses how rearranging the furniture enhanced the learning environment. "I now realize it is relatively unimportant to have enough tables and desks so that everyone can sit at once," comments Joe. "I'd rather use limited classroom space for learning center tables and a common rug area."

3. *Monitored noise levels.* Children who are learning, discussing, negotiating, and questioning are talking. Each teacher has his or her own comfort level with the hum that reflects busy minds at work. The physical environment can be arranged to help teachers to monitor and control noise (Greenman 1988). For example, blocks, manipulatives, dramatic play, computers, and writing centers are likely to encourage discussion. Teachers can arrange these areas adjacent to one another. The library corner, a listening area with earphones, and a quiet corner for one or two students to work quietly can be placed in a different area of the room or buffered with portable dividers or tables.

   Joe draws maps of his classroom before and after studying the effects of classroom environments on learning (Figures 2-1 and 2-2). By taking photos three feet from the floor, he identifies the following initial problems: children run through the room after putting their belongings in cubbies; pathways and boundaries are not clearly apparent; the bulletin board to delineate the writing area is far above the children's eye level; and during free-choice period, art, table activities, and

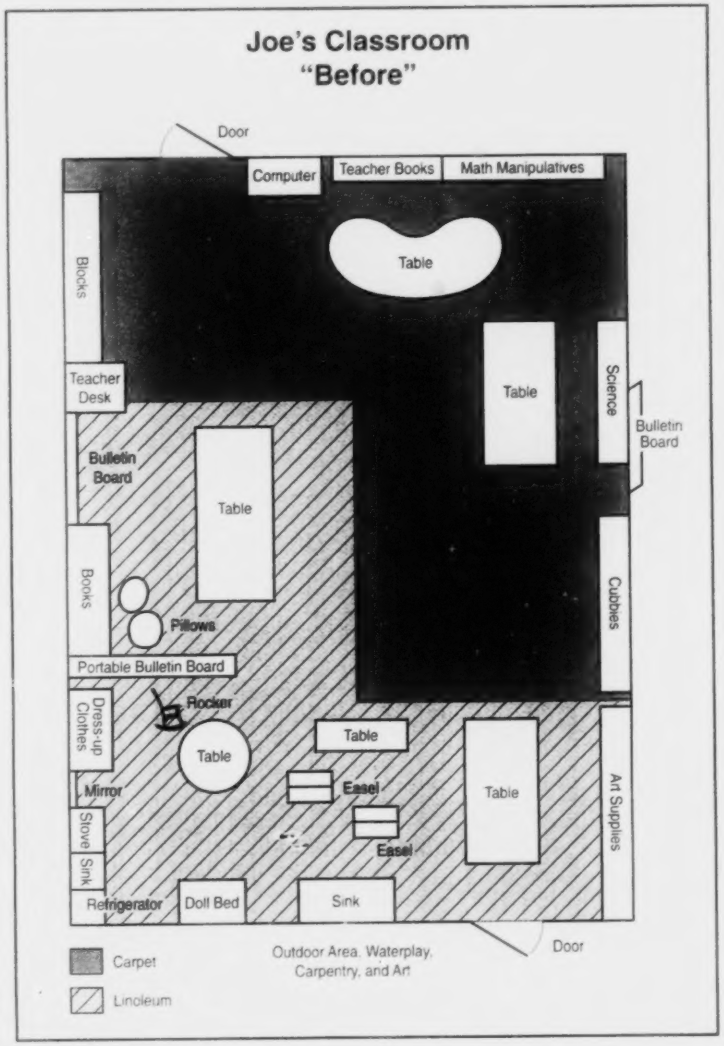


Figure 2-1

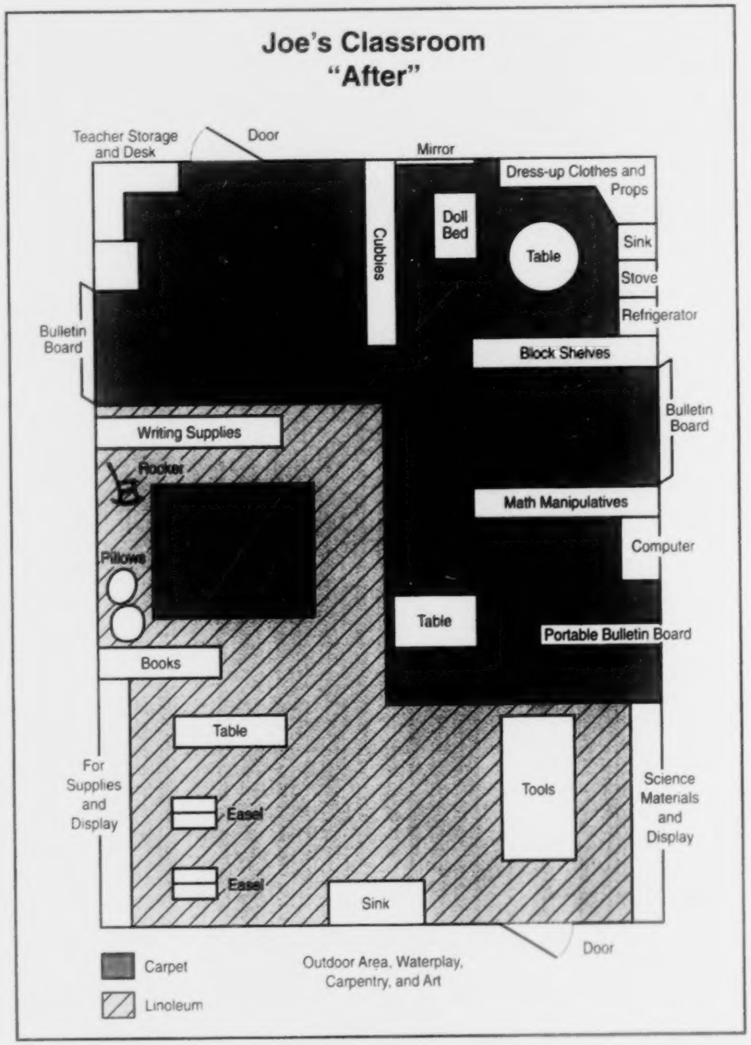


Figure 2-2

BEST COPY AVAILABLE

math manipulatives areas are overcrowded, often leading to spilled paint and disputes over materials.

Joe uses shelves and a table to mark off the writing area and protect children from interruptions. He moves the cubbies closer to the front door, thus creating a more sheltered area for blocks and reducing traffic through the room. The high school shop class builds portable easels and a carpentry cart for his students to use outside. Parents build garden boxes on wheels and help students sew pillows for the reading corner. Joe separates the computer from the active areas and stores his supplies away from the learning areas. Children's behavior becomes more focused on the learning activities. Traffic moves through the room more purposefully, and children take out and replace materials more easily without depending on adult help.

4. *Space for forms of life and forms of beauty.* Fredrich Froebel, the "father" of the kindergarten, spoke of two kinds of knowledge that contribute to children's development: *forms of life* and *forms of beauty* (1896), which influence curriculum and the physical environment of the classroom. Providing experiences that represent life activities, such as opportunities to care for growing things, is essential. Activities such as woodworking or gardening give children a sense of competence with real tools. Forms of life also include culturally diverse representations of objects and experiences in children's daily lives, such as posters, photographs, music, and sociodramatic play props. Teachers ensure that objects they provide are familiar to students and that discussion takes place about appropriate use.

To incorporate forms of beauty into the classroom, teachers should choose materials that represent aesthetic experiences, such as patterns, symmetry, textures, and visual and auditory harmony. Teachers encourage both the practical and the aesthetic representations of knowledge in the classroom. Aesthetically pleasing color combinations, textures, paintings, and music convey a feeling of respect and care. Materials such as paint, clay, blocks, and musical instruments encourage children to express their inner creativity (Loughlin and Suina 1982).

When Rosa and Joe consider aesthetics for the early childhood education complex, they talk about the use of color, light, and air in the environment. They recommend walls, rugs, and bulletin boards with soft colors and natural textures to give a visually harmonious message. To extend the environment to the outdoors and to ventilate the room, they suggest a covered patio area and windows that open. Helping to clean shelving and containers is an outdoor project, in good weather, for children to do in preparation for the new complex. Parents and Joe will paint and refinish housekeeping furniture and blocks. Joe and Rosa use clear cues, such as pictures or word labels, on cabinets to help children return objects to their storage areas.

5. *A sense of emotional well-being.* For children to experience safety, security, and a sense of belonging, they and their families should feel welcome. A place for children, parents, and visitors to be greeted, sign in, and view the classroom makes people feel safe and secure. Photographs, books, posters, and music that reflect various ethnicities and abilities enhance this sense of welcome (Gonzalez-Mena 1992).

Teachers analyze the environment by taking a child's eye view. This perspective includes space scaled down to children's body sizes and eye levels; for example, small rather than large tables, canopies or lofts to personalize areas with high ceilings, and displays of children's projects at their eye level. Eye contact between all children and the teacher should be as easy as standing or turning. This is especially important for children in wheelchairs or with other special physical needs. These children may use table space for their play or projects, while more mobile children might build on the floor.

The use of soft space, such as fabric-covered dividers, carpeting, pillows, rocking chairs, grass, sand, and gardens, contributes to children's sense of well-being. Another contributor is a place for children to pause, contemplate, or just watch. A rocker or a crawl-in cardboard box may be a haven. Display areas for projects allow children to observe, communicate, and have opportunities to calm themselves independently. An environment that reflects children's presence is also important for their well-being. Captioned photographs of their projects and activities and student-made books show that the classroom is "home" to these children and their teacher.

6. *Space that extends teaching and learning.* It is critical that the environment offer numerous opportunities for learning, especially literacy (see "Maximizing Literacy in the Classroom" in Appendix A). The curriculum is augmented when areas are placed adjacent to one another so that cross-fertilization of ideas, themes, and materials can occur. For example, placing the blocks adjacent to the dramatic play area encourages children to combine their construction projects with dramatic play (Kinsman and Berk 1991; Wasserman 1990; Ramsey 1988; Moore 1985). Providing graph paper and pens in the math manipulatives area gives children nonverbal messages about possibilities and expectations for learning.

Teachers often extend learning when they display materials in ways that suggest complex and creative uses. For example, putting pattern blocks in a basket with small mirrors gives children ideas for creative activities. Children's imaginations are further stimulated when teachers use materials in flexible ways. Rotating materials to different areas—such as moving the small toy animals from the water table to the block area or placing empty food containers in the block area—invites new combinations and creativity (Cuffaro 1991).

Teaching and learning are also extended when children have a variety of activities from which to choose. The children's choice-making abilities regarding activities are enhanced when classroom materials are displayed, labeled, and grouped. Facilitating a genuine choice requires that the number of choices be equal to at least one and one-half times the number of children in the group. For example, 24 children should have at least 36 choices, which are more than met by five places in dramatic play, seven at blocks, four at water play, two at the computer, four at easels, five at the writing center, six with the manipulatives, four at the listening post, five in the class library, two "reading the room," and so on.

The curriculum is further extended when children experience a sense of potential. Unfinished areas attract their ingenuity and sense of responsibility. A partially dug garden or an empty display board invites children's creativity, sense of ownership, and representation of newly learned concepts.

Classroom space may be used to help teachers observe and assess children's ongoing activities and learning. A writing center with paper, felt-tip pens, a mailbox, date stamps, and a poster showing classmates' pictures and names may stimulate students to write each other letters. A space in the center for storage of the teacher's observation materials facilitates immediate anecdotal records by the teacher.

7. *Space that welcomes family members and the public.* The classroom, school, and center should be welcoming and convey an offer to participate. Research shows that when families are involved, children do better in school (*A New Generation of Evidence: The Family Is Critical to Student Achievement* 1994). A bulletin board or message center near the site entrance may attractively display articles, information, and resources of interest to parents and others. Families who feel connected to the program are more likely to become involved as a volunteer at home or in the school or center, as a provider of information or resources, or as an advocate for children and the program.

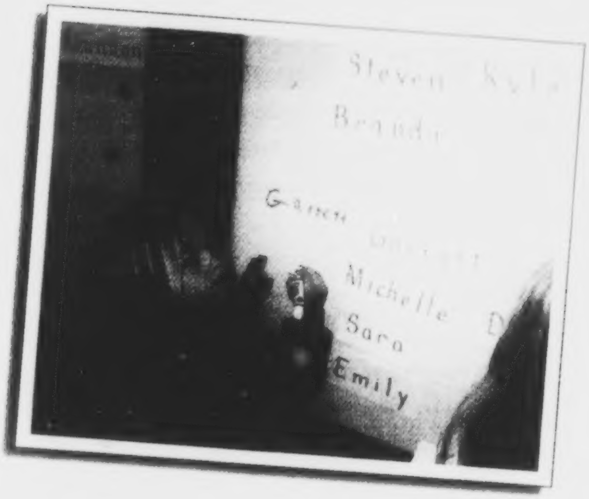
Readers can find tips on setting up a parent center in *Organizing a Successful Parent Center* (1994).

The teacher views the classroom or center as a blank canvas on which to create an educationally creative environment that is flexible, stimulates learning, and helps children take responsibility for their own education.

BEST COPY AVAILABLE

CHAPTER 3

Scheduling the Day in the Early Primary Program



Time is a valuable commodity for early primary educators. The daily schedule can foster children's learning and initiative; active exploration of materials and concepts; and sustained engagement with other children, adults, and activities.

To make decisions about the daily schedule, as well as longer-term curriculum, teachers combine their understanding of grade-level standards and learning expectations with their knowledge of child development principles, individual characteristics and experiences of children, and social and cultural contexts. They also balance initiation and control of activities between themselves and the children. Rather than scheduling *additional* activities to enable students to accomplish grade-level standards, knowledgeable teachers plan lessons and activities that are integrated across subject areas (see Chapter 6).

Taking the Child's Eye View and Teacher's Eye View

The *child's eye view* is the perspective of the classroom and its activities from the child's vantage point. Taking the child's eye view requires teachers to reflect on their knowledge of child growth and development. According to Piaget, children's spontaneous activities and active methods facilitate their gradual growth of intelligence (DeVries and Kohlberg 1990). The implications for teachers planning the daily schedule is that there must be time for children to initiate, play, experiment, reason, collaborate socially, and have predictable routines and patterns as well as to complete teacher-directed activities. New additions to the schedule should be discussed, role-played, or practiced in small increments and then discussed by the teacher and students. Teachers evaluate the results by observing children, reflecting on those observations, and having dialogue with fellow professionals.

Rosa greets preschoolers and their family members, at which time she does an informal health check. Family-style breakfast enables them to start the day slowly in small table groups. Rosa relates, "On Friday mornings, before their own classes begin, high school community service volunteers read to the children. The children and I discussed the postponement of breakfast, but after the first day, I could tell that some preschoolers were too hungry. So I changed the schedule and had their high school buddies read during breakfast at tables spaced around the room. My conversation with parents showed that they had no reservations about reading during mealtimes. I intend to continue monitoring this schedule to make sure children are eating and enjoying their book time with the volunteers."

The *teacher's eye view* examines constraints resulting from adults' considerations, such as bus schedules, the need to share a playground with other groups, available time for specialists or resource teachers, and changes in routine caused by the school's hours of operation or meetings with parents. Educators work together to ensure that interruptions of the core learning periods are extremely rare so that students may accomplish standards and grade-level expectations and maximize their development and learning. Some of the aspects teachers should consider in planning the schedules are discussed in the next section.

Balancing Classroom Activities

To maximize children's development physically, socially, emotionally, and cognitively, teachers incorporate balance into the day's activities. The kinds of activities to be balanced are discussed in the section that follows:

Active and Quiet Activities

Because young children tire easily, early primary teachers schedule alternate active and quiet periods, particularly for those children without nap time. After working in groups on teacher-directed projects, children need a shift in energy, a change that may be accomplished through such activities as dancing to a favorite song or climbing outside to balance their energy patterns (Fromberg 1989).

Large and Small Groups Chosen by Teachers and Children

When children interact with each other, a cognitive "stretch" occurs. This stretch may be particularly draining for young children because they are just beginning to think about the viewpoints of others (Van Hoorn et al. 1993). Sensitive teachers alternate periods of large-group discussion or activities with opportunities for small-group or individual activities. Whole-group time may include chanting a favorite rhyme, participating in share-and-ask, or previewing a scheduled activity. The use of small groups enables a child to work on specific tasks with the guidance of the teacher; for example, "making-words" activities (see Chapter 5) or noticing features about various tangram shapes. Children may be assigned to groups and rotate through learning centers that focus on a particular aspect of the curriculum and allow for individual differences (Nitschke 1998).

For the first graders who have not achieved phonemic awareness, Joe's efforts are more direct and time intensive and associate print with the aural activity more completely.

Another important aspect of active learning is children's freedom to *initiate*. Choices of activities allow children to elaborate on concepts and skills learned from the teacher's planned curriculum, honor their own interests and talents, develop a sense of autonomy, negotiate with others, and attribute consequences to the choices made (Dweck 1986; Wasserman 1990; Katz and Chard 1989). Because ages four through six are a critical time for developing children's initiative, incorporating opportunities for students to choose activities into the daily schedule helps children learn responsibility (Hohmann, Banet, and Weikart 1979). Behavior problems are reduced as students realize there is also time in the day for what "they want to do."

During student "choice time" teachers should be available to help children gather materials and to extend learning though questioning, recording, observing, and assessing children's learning. Teachers may occasionally want to work individually with a child or a small group during student choice time, but sensitive teachers consult with the child about the best time, thus respecting the child's choices.

Predictable and Flexible Activities

Predictable routines help children become secure and competent as they begin to understand time; for example, a familiar song starts the day. Nevertheless, it is easy to confuse the need for a block of time allotted for safe routines and the content of those routines. For example, serving snacks at the same time of day may be routine enough to give the teacher flexibility in scheduling whole-group snacks on some days and individually prepared snacks on other days. Gifted teachers incorporate routines and are flexible so as to take advantage of children's spontaneous discoveries, such as a colorful butterfly seen by a student on his or her walk to school.

Familiar and Novel Activities

Children need a balance between the novel and the familiar. They require sufficient time to explore materials before truly understanding them. In the preliminary exploration phase, a critical question a child may act on is, "What can this object do?" After children have had sufficient time to explore the object during play or work time, the question shifts to, "What can I do with this object?" Before putting out unfamiliar materials, teachers introduce them over the span of several days to small groups of students. This technique also alleviates inappropriate use of materials.

Indoor and Outdoor Areas

Although some facilities offer better opportunities than others for activities to flow indoors and outdoors, the physical environment and schedule can work together to create a balance. Group time or choice time may be set up outdoors for such activities as sand or water play, painting, measurement tasks, discussion of literature, journal writing, or choral reading.

Forms of Life and Beauty

Drawing on patterns in the environment (see Chapter 2), early primary teachers try to find time each day for teaching children about forms of life and beauty. Taking time to prepare snacks, care for class pets, and keep the room in order—all forms of daily living—are routines that, with discussion, can contribute to close relationships and extend the integrated curriculum.

Scheduling Early Intervention

While good "first teaching," including quality preschool teaching, is the best early intervention, teachers must ensure that resources are available for children who have various special needs or who are at risk of not meeting grade-level standards. Specialists in language development, for example, work with individual children in the class. A Title I teacher or resource teacher may provide additional daily systematic, explicit, and intensive small-group supplemental instruction for the lowest-achieving students and for students needing primary language support (*Preventing Early School Failure* 1994; Hiebert and Taylor 1994). Intervention services for children with special needs should produce specific, measurable, and meaningful changes in children's interactions with their environments and their lifestyles (McDonnell and Hardman 1988). Guidelines for effective interventions for special needs are elaborated in material by Wolery, Strain, and Bailey (1992). To improve the classroom teacher's effectiveness with a child with special needs, resource teachers or special needs transition teachers may model instructional strategies for the classroom teacher to use (see Chapter 5 for additional information). Early intervention is facilitated when preschool and elementary school teachers work and plan together (*Continuity for Young Children* 1997).

Orchestrating the Rhythm of the Day

In addition to considering a balance of activities for the daily schedule, teachers also plan the pace, rhythm, and integration of the day.

Pacing the Day

To provide balance and time for teachers to observe, extend learning, and have meaningful conversations with children, pacing the rhythm of the school day is essential.

When children can finish what they are doing—or at least come to terms with leaving it to finish another day—they more easily go on to the next activity. Giving younger students a gentle five-minute warning to conclude their work not only represents basic respect but also helps children take responsibility for budgeting their time and planning ahead. Having clocks, pictures, and words for activities depicted on a pocket chart is another way of cuing or prompting the class.

While K/1 students choose from a variety of learning materials and activities during "choice time," Joe targets three or four children for whom he writes anecdotal records. As he observes and listens to an individual or a small group playing with blocks or writing stories, he may question children informally and take notes on their progress through stages of oral language development, block building, counting, or writing. He occasionally uses this time for direct teaching or for a teacher-child conference to assess a child's phonemic awareness, use of manipulatives to determine a child's knowledge of mathematics, or give an individualized spelling test.

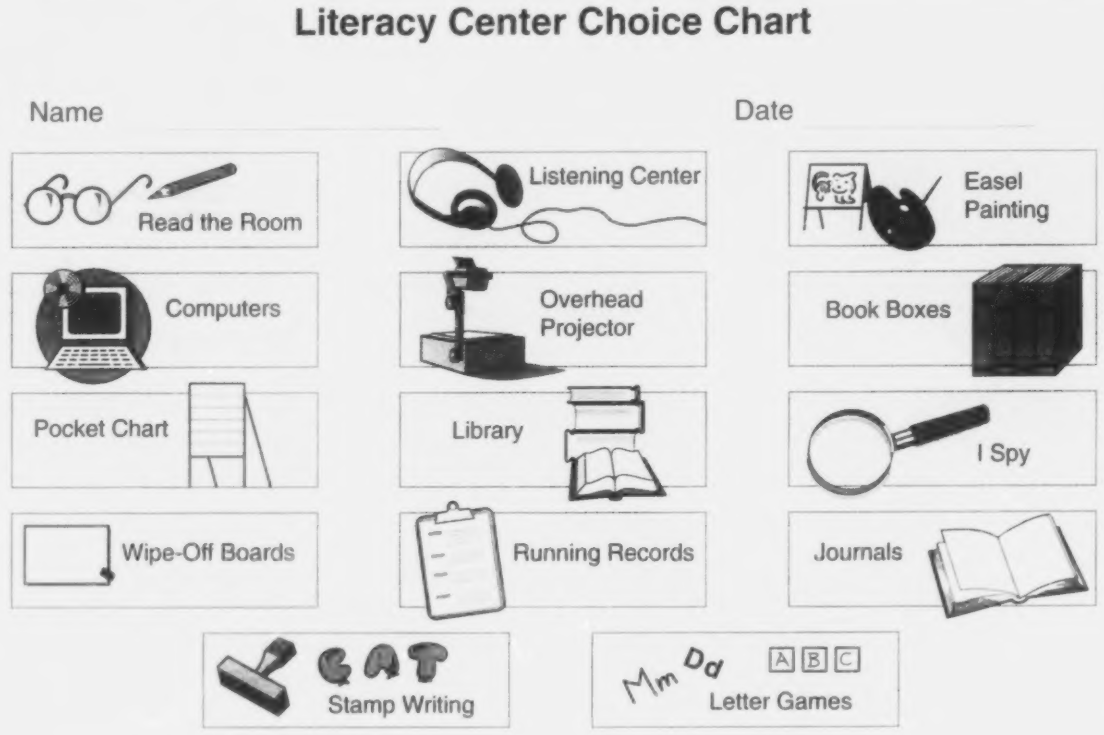
Planning Time for Beginning and Completing Learning Projects

Early primary teachers try to structure class "periods" in large blocks of time during which children can focus and structure their learning. It is critical that children spend significant time each day on language arts and mathematics. *Every Child a Reader* (1995) advises that in kindergarten at least one-third of the day should be devoted to language arts; in grades one and two, students should spend at least one-half of the day in reading and other language arts activities. The *Reading/Language Arts Framework* (1999) recommends that 2.5 hours of instructional time be allocated each day to reading and language arts in the primary grades. While some of this time is integrated with other subject areas, teachers must ensure that the content of the language arts discipline does not suffer from being integrated with other subjects (see the next section and Chapter 6).

Joe remarks, "One semester I rotated students to four different learning centers during an hour. Fifteen minutes wasn't enough time for them to get deeply involved and do good work. I realized that when children have more time for their tasks, they become more fully absorbed and thoughtful, more willing to negotiate with others, and proud of their sustained efforts. Now I create four groups doing four different activities, each group doing one of these activities a day. Depending on the activities and the presence of volunteers, I circulate among the groups or work with a particular center. I ask the children probing questions to encourage their study, observe their efforts, and provide materials. I find that they learn much more and that our pace is not so frantic. As children become more adept at managing their learning behaviors at centers, I gradually add more self-pacing and student choice centers" (see Figure 3-1, "Literacy Center Choice Chart").

Katz and Chard (1989) have shown that learning projects are a valuable strategy for teaching basic skills, concepts, and knowledge while encouraging positive dispositions. They cite research by Dweck (1986, 1987) suggesting that the goals teachers set for students have significant cumulative effects on children's dispositions toward effort, mastery, learning, persistence, and challenge seeking. Dweck asserts that school tasks can be set either in terms of performance goals or in terms of learning goals:

1. *Performance goals.* When a teacher introduces an activity by saying, "Today I want to



Nori Nitschke recommends that the teacher gradually introduce each activity shown above, modeling appropriate student behavior. After students have practiced the procedure for each activity, its picture card is added to the "Literacy Center Choice Chart" with a clothespin (so that the picture and activity can be removed, when desired). Reprinted by permission from Nitschke, N. 1998. Leaping into Literacy Centers. Granite Bay, Calif.: N.p., p. 42.

Figure 3-1

see how many problems you can get right," she sets a performance goal. A competitive reward structure may be perceived as children focus on gaining favorable, or avoiding negative, judgments. Some may be more likely to develop a lack of persistence, become concerned about their ability, or withdraw from tasks or learning goals. Dweck states that performance goals "promote defensive strategies that can interfere with challenge seeking" (Dweck 1986, p. 1043).

2. *Learning goals.* When a teacher introduces an activity by saying, "Today I want to see how much you can learn about repeating patterns," she sets a learning goal. As children focus on increasing their understanding or mastery of something new, they may be more likely to seek challenges (regardless of whether they view themselves as of high or low ability) and transfer learning to novel situations.

This research suggests that the disposition to learn can be threatened by overemphasis on skilled performance in formal academically oriented curricula. This is not to suggest that educators should not have academic standards, but rather that the ways in which teachers set academic goals may encourage or discourage students from attempting to achieve those standards. Katz and Chard advocate including project work as a part of the early childhood curriculum because this approach provides a context that focuses on individual and group learning while expanding knowledge about topics.

Integrating Subjects to Teach Concepts

Young children do not naturally separate learning into subject-area categories. The fragmentation of curriculum may be frustrating to them. Interdisciplinary studies in preschool through grade one include theme-based units and projects that are neither too broad nor too narrow (see Chapter 6).

Planning Sample Daily Schedules

Once teachers identify the patterns and rhythms they wish to consider, they plan their schedules, keeping foremost the grade-level standards, learning expectations, and children's stages of development. Examples of several schedules are provided below.

Joe and Rosa both schedule "choice time," but Rosa plans two such times to foster social and emotional development and concept exploration. Rosa's all-day child development program includes time for her to plan with the afternoon teacher, Joyce. Joe's "choice time" activities extend curriculum, especially language arts and mathematics concepts and skill development.

Rosa's Morning Preschool Schedule

8:00—8:30 **Check in.** Greet children and family members and check children's health. Breakfast followed by children previewing the room for later choice time. (One day per week high school buddies read during breakfast.)

8:30—10:00 **Choice time** (indoor/outdoor). Some materials reflect the current curricular theme. Every day adults read to individuals or small groups. Snacks are available. Rosa assesses one or more children or individualizes instruction in skills or both.

10:00—10:15 **Pick-up time.** Children finish their activities and put the centers in order. Adults help students improve in this ability.[1]

10:15—10:30 **Class meeting.** All discuss the day's special events and the children's accomplishments from choice time; sing; or do phonemic awareness activities, finger plays, flannel board stories or poems, or combinations of these activities.

10:30—11:15 **Small-group work center time.** Activities for small groups are focused on the current theme. Rosa and her assistants are each responsible for a center, blending guidance and direct teaching, especially for projects requiring new processes or skills. Children write words or make signs, count, record, and make representations of their ideas. The teachers observe children's efforts and may make anecdotal records. New activities or materials that were used become a choice available on subsequent days. The last five to ten minutes are spent putting the centers in order and making the transition to the next activity.

11:15—11:30 **Circle movement time** (indoor and outdoor). Children do motor development activities, whole-body movement, or physical response to music, or a combination of these activities.

11:30—12:30 **Family-style lunch and quiet time.** Children eat with the adults, who encourage health and social skills, language development, and trying new foods. After eating, handwashing, and teethbrushing, the children look at books, listen to a story, or rest quietly with stuffed animals.

---

[1] Early in the year the teacher starts pick-up time with a class meeting, explaining that everyone will go to the block center to help, even if they did not play there, because "We're a family." Adults hand objects to children, who put them away. When the children are adept at this, they form a "pick-up train" that moves from center to center, picking up as they go. Later in the year, during a class meeting, they discuss where to pick up first, and small groups tackle a particular area. By year's end the teacher should be able to give a signal, and all children will pick up independently (personal narrative of educator Mark Tompkins).

BEST COPY AVAILABLE

Rosa's Afternoon Preschool Schedule

Many of Rosa's students are present for ten hours. Rosa's hours are from 7:30 a.m. to 3:30 p.m., while Joyce, the afternoon teacher, works from 10:00 a.m. to 6:00 p.m. Afternoon assistants arrive at 1:00 p.m. so that Rosa and Joyce may use the nap/quiet time for planning and reflecting on children's learning.

12:30—1:30 **Nap/quiet time.**

1:30—3:00 **Exploration time.** Activities build on students' interests and diagnosed needs. During the last 15 minutes, children put things in order indoors and outdoors and pack projects to take home because they leave at various times after 3:00 p.m. Teachers collect samples of children's work for portfolios.

3:00—3:30 **Snack time.** Snacks are served to the children at tables. Each teacher reads a story to the group at her table while the children eat. Rosa departs for the day.

3:30—4:30 **Choice time** (indoor and outdoor). Activities are scheduled with materials that can be easily put away, such as accessories for dress-up play, tricycles, and books. Joyce may use this time to meet with one or more children for diagnostic assessment or individualized instruction in skills.

4:30—6:00 **Quiet "breathing-out" time.** This time is scheduled with books, puzzles, journal writing, and audiotapes that children use to reflect, relax, or provide familiarity. Children may draw a picture of one of their day's activities while an adult takes dictation. These pictures are given to parents. Joyce leaves a summary of pertinent information for Rosa to review the next morning. Joyce also includes any issues she and Joe have discussed. (Parents receive informal comments about the child's day. Notes, newsletters, or an occasional video are sent home to explain the preschool program. Family participation is invited in numerous ways.)

Joe's Schedule for the K/1 Class

8:00—9:00 **Choice time.** As children arrive, they record their presence and lunchtime needs. Then they choose books to read alone or in small groups, followed by a 40-minute choice of centers and investigative play. Indoor and outdoor centers incorporate language arts or mathematics. Each child writes his or her name on a choice chart to indicate blocks, art, dramatic play, manipulative materials, library, computer, or science experience. Snacks, provided by families or Joe, are set up for the children to help themselves.

9:00—9:25 **Literature time.** Joe reads and discusses a story with the whole group. If other adults are present, smaller groups are used so that the comprehension questions may be more completely discussed by all. Children may also write about the text in journals.

9:25—9:40 **Recess** and bathroom break. (A bathroom break occurs whenever a child needs one.)

9:40—10:30 **Learning centers.** Four centers are set up to meet specific curriculum goals and, when appropriate, to integrate the concepts of art, science, mathematics, language arts, health, physical education, and social studies. Joe provides direct instruction and interacts with groups, while assistants, volunteers, or resource teachers help. Children go to one center each day. Sometimes he assigns the children to particular centers; at other times children choose the sequence of centers, as long as they complete all centers during the week. Center recording sheets at each center show children's efforts. Joe informally observes and assesses. Students also choose and check out classroom library books for homework.

10:30—10:40 **Pick-up time.** As music plays, the class organizes the indoor and outdoor space; kindergartners pack projects and library books to take home.

10:40—11:05 **Group meeting.** Phonemic awareness word play, movement, and large muscle development activities take place with the whole group, either indoors or outdoors. Students report on their learning discoveries for the day.

11:05—11:30 **Demonstration time.** The whole group participates in choral reading, a play, or musical activities. Kindergartners with their homework leave for home or day care. The 14 first graders go to lunch.

12:30—1:00 **Silent sustained reading.** The students and Joe participate in this activity. During the last five to ten minutes, children share about their books.

1:00—1:50 **Reading skill building.** Joe teaches with the whole group and works with guided reading groups. Children who are waiting for their turn in those groups pull their reading folders and complete activities that Joe has identified for the children's particular reading levels. The children have been taught how to access the correct materials, how to "show" their finished products, and how to put away their materials. A few sixth grade buddies who have been taught how to work with young children take turns helping out for 20 minutes. Joe checks the children's accomplishments daily, keeping anecdotal records or writing notes to the students about their work or both.

1:50—2:20 **Computational mathematics.** The children pull out their individualized mathematics folders. They use manipulatives that demonstrate place value to help them build confidence and accuracy with number theory. Joe groups children who need instruction in common skills. Other mathematics concepts such as geometry, measurement, and fractions are integrated earlier in the day in centers.

2:20—2:30 **Pick-up time.** The classroom is put in order, and the day's events are discussed. Children go home or to child care at 2:30 p.m. Joe occasionally meets with Joyce from the preschool program or with other early primary teachers to discuss common issues.

CHAPTER 4

Planning Classroom Instruction and Management

To achieve smooth, efficient classroom management, teachers listen receptively to children's requests and questions, set limits, enforce rules, and teach students to work collaboratively.

To help educators learn more about the aspects of managing classrooms effectively, this chapter presents a discussion of the following topics: knowledge of child development to support learning, goals for children's learning, the role of play, status in the peer culture, mixed-age grouping, discipline, and the roles of the teacher.

Using Knowledge of Child Development to Support Learning

To plan appropriate instructional strategies, teachers need to be knowledgeable about children's development; the strengths, interests, and needs of children; the social and cultural contexts in which the children live; and grade-level standards or learning expectations. With this knowledge, educators will offer programs that ensure relevant, respectful learning experiences (*Developmentally Appropriate Practice in Early Childhood Programs* 1997). Early childhood educators continuously learn as they read extensively, discuss collegially, and carry on their own action research ("action" because it results in positive changes to their instructional practices) (Hubbard and Power 1993).

A general overview of three areas of children's development—social/emotional, physical, and intellectual/neurological—is presented below.

Social and Emotional Development

Peers become increasingly important for three- to five-year-olds' socialization. With adult guidance, children can play together for extended periods, use language effectively, and learn positive ways to deal with others. While children in this age group tend to overrate their own competence (because of egocentrism), they may quickly become discouraged if they experience repeated disapproval, failure, or frustration. Adults help children grow emotionally by providing opportunities for them to be initiators and competent learners (such as in the project approach described by Katz and Chard 1989).

Children this age have an increased capacity to think and imagine, a capacity that may lead to an increase in fears. These fears are overcome as adults care for and support children as rational thinkers, limit their exposure to violence in media, build security in their environment (Garbarino et al. 1992), and express strong emotions constructively (Slaby et al. 1995).

A fairly consistent finding in the research literature is that young children with special needs may engage in less frequent and less sophisticated social play than their normally developing peers do (Guralnick and Groom 1987). Children who have experienced abuse or neglect are also at risk of less-than-optimum social/emotional development. Educators who suspect child abuse or neglect are required to notify Child Protective Services officials (*Penal Code* 11166[a]). Teachers may obtain information about child abuse prevention from the California Consortium to Prevent Child Abuse. This statewide nonprofit agency, with resources for families, schools, and others, may be reached at 1-800-CHILDREN or (916) 498-8481; its Web site address is <http://www.ccpca.org/>. Promoting social competence is thus a critical goal for *all* young children.

According to Erik Erikson (1963), the ages from four through six are critical times for children to develop a sense of *competence* and *initiative*, both of which are the foundation for the next stage of development—*industry* versus *inferiority*. Industrious children set goals and persevere with their plans, producing projects that reinforce their sense of competence. Lacking a sense of initiative, children may become overly dependent on the judgment of adults, suspicious of their own abilities, and increasingly reluctant to plan or follow through.

Although children's dispositions toward learning are shaped by home experiences, their dispositions to cooperate and negotiate, approach new situations with confidence, and risk new ideas may be developed in early primary programs through (1) choice-making; (2) collaborative work; and (3) opportunities to explore, experiment, and play with objects, peers, and ideas (Dweck 1991; Katz and Chard 1989) (see Chapter 3). Children may develop undesirable dispositions—reluctance to try anything new or bullying rather than negotiating—in programs in which approval is gained only from right answers, learning is overly competitive, or curriculum is centered solely on teachers' initiatives. Research studies show that children are resilient and can succeed when they find "islands" of support from teachers or other significant adults who help the children to see themselves as competent and caring (Werner 1989; Masten 1994; Benard 1991).

Physical Development

A fairly predictable pattern of physical development occurs during this age span (*Developmentally Appropriate Practice in Early Childhood Programs* 1997). Children from ages four through six frequently experience physical growth spurts that may cause unstable motor patterns and awkwardness in such physical activities as holding a pencil or maneuvering through aisles. Changing growth patterns also produce a need for young children to be physically active as they learn. Their bodies are not suited to sitting still for extended periods of time. Their memory is also closely associated with physical action. Manipulating materials and having life experiences, such as experiments or field trips, are major contributors in helping young children to retain information. Abstract memory and visual memory develop later.

During this age span muscles and bones are still developing so that fine motor tasks are challenging for many children. Hearing is also still developing, as is children's ability to articulate certain sounds physically. Discriminating the sounds of letters and words and making those sounds match what is heard is a challenge for some children that they naturally try to meet. Rather than pushing children to perform perfectly, knowledgeable adults give them informal opportunities to practice. Generally, children from ages four through six are also farsighted, so that close work and detail are visually tiring, such as copying letters (especially from the relatively distant chalkboard to their paper). Awareness of young children's physical development helps teachers adjust plans for amounts of time for certain activities.

Intellectual and Neurological Development

There is a growing body of research which demonstrates that social and sensorimotor experiences during the first three years of life directly affect neurological development of the brain, with important and lasting consequences for children's capacity to learn. Recent research on brain development indicates that a newborn baby's 100 billion brain cells are not connected in networks as the cells are in a mature brain. These networks or connections are made by a baby's experiences, and, by about the age of three, there are 1,000 trillion connections. At about age eleven, the child's brain will get rid of unused connections. A responsive and caring adult's secure attachment with a child prevents harmful hormones from being produced during stress, thus enabling brain connections to remain in place (Kandel and Hawkins 1992; Shore 1997).

New research on brain development, such as the following, is expanding ideas about how young children learn (Shore 1997, p. 18; Lally 1997):

- How a brain develops hinges on a complex interplay between the genes a child is born with and the experiences he or she has.
- Early experiences have a decisive impact on the architecture of the brain and on the nature and extent of adult capacities.
- Early interactions do not just create a context; they directly affect the way the brain is "wired."
- Brain development is nonlinear; there are prime times for acquiring different kinds of knowledge and skills.
- By the time children reach age three, their brains are twice as active as those of adults. Activity level drops during adolescence.

According to Piaget (1952), children ages four through six are in a stage of preoperations. He describes preoperations as an intellectual stage characterized by use of a child's own logic, which often runs counter to adult logic. For example, to a young child, a whole sandwich cut into pieces appears to be bigger than an uncut sandwich, thus demonstrating preoperational thinking about quantity.

A major characteristic of preoperational thinking is a developing sense of "perspectivism," or the child's ability to understand that others have viewpoints that differ from the child's. Teachers show children that others have needs, give opportunities for children to play and negotiate with others, and model language for children to use in resolving difficulties. Most first graders understand that others may have different perspectives. They can imagine those perspectives, for example, through classroom drama as they try on various roles and discuss their characters' behaviors.

Some researchers (Greenspan 1992, 1997; Greenspan and Wider 1997) advocate specifically designed experiences as necessary to help children—especially those with impairments—develop new capacities. Such experiences take into account a child's particular central nervous system patterns and expressions as well as his or her current developmental level (Shore 1997, p. 54).

Identifying Goals for Young Children's Learning

Goals for young children's learning can be classified as a combination of concepts, skills, dispositions, and feelings (Katz and Chard 1989). *Concepts* are broad structures of thinking, such as classification, time, and space. *Skills* are more specific aspects of behavior that can be easily observed because they are based on imitation; that is, the skill in using scissors or recalling letter names. *Dispositions* are habits of mind or characteristic ways of approaching learning, other people, or situations; for example, to persevere, cooperate, or be curious. The *affective domain,* or *feelings,* is probably the most subtle aspect of the curriculum. This domain includes children's sense of belonging, security, and self-worth. Children's beliefs about themselves and dispositions toward learning represent the foundation of their learning in cognitive, social, and physical domains. Although activities in each area may not be offered each day, a development-based program helps children learn and develop in all areas (see Chapter 3 for more information about learning goals).

A specific but complex skill is the ability to think, which is a vast complex of mental activities that can:

- Increase children's capacity to deal with problems and reach decisions (Brandt 1984).
- Promote further cognitive development (Biber, Shapiro, and Wickens 1977).
- Promote curiosity, initiative, cooperation, and independence (Goffin and Tull 1985).
- Enhance intelligence (Sternberg 1984).

Four major types of thinking skills are inductive thinking, critical thinking, divergent thinking, and metacognition (see Figure 4-1, "Categories of Thinking Skills"). Young children's ability to think may be affected by social and emotional factors (fear or curiosity), cultural backgrounds (which may affect *how* a child thinks), and developmental levels (for example, children at a preoperational level of

Categories of Thinking Skills

One system of classification divides thinking skills into four major categories called cognitive processes:

- Inductive thinking, which enables a child to reason and make inquiries
- Critical thinking, which helps a child evaluate a situation
- Divergent thinking, which allows a child to generate ideas or alternatives
- Metacognition, which is the process of thinking about thinking

Thinking Skills Used in Problem Solving

The following list relates thinking skills used in problem solving to each of the four cognitive processes:

Inductive	Critical	Divergent	Metacognition
Observe	Analyze	Image	Plan information-seeking strategy
Quantify	Synthesize	Generate ideas/ alternatives	"Talk" with your brain
Differentiate	Evaluate	Create	Reflect on your own thinking
Classify	Decide	Intuit	
Compare	Choose		
Contrast	Construct arguments		
Sequence			
Formulate cause and effect			
Remember			
Predict			
Estimate			
Infer			
Generalize			

Source: A Guide to Program Development in Kindergarten, Part 1. 1988. Hartford, Conn.: State of Connecticut Department of Education, pp. 104–5. Adapted with permission from the Connecticut State Department of Education.

Figure 4-1

BEST COPY AVAILABLE

development are limited in their ability to think logically).

Teachers of young children realize that children are capable of a variety of thinking skills regardless of their grade level, age, or intelligence (Strong, Silver, and Hanson 1985); however, teachers must adjust teaching methods to match children's cognitive levels of development (Goffin and Tull 1985). They help develop thinking skills when they encourage children to think about their own thinking; make plans to reach distant goals and follow their own paths to achieve them; resolve discrepancies by evoking problem-solving responses; internalize a need for problem solving as well as the process of problem solving; and increase the amount of time that they wait for a response to questions (*A Guide to Program Development in Kindergarten* 1988). The early years are a time to demonstrate to children that all questions do not have one correct answer. Teachers may accept children's unconventional answers if they explore with children how they arrived at their responses, an approach that provides deeper insight into children's cognitive processes.

Understanding the Role of Play in Early Primary Programs

Play is a basic way by which young children gain knowledge (Van Hoorn et al. 1993; Wasserman 1990; Schrader 1990; Vygotsky 1967). The original source for much of the knowledge about play is the work of Piaget, who postulated that, on consolidation of each new developmental stage, a child's repertoire of strategies and schemes for behavior is expanded (1954, 1962, 1969a). Piaget's stages of play are described as follows:

1. *Practice or functional play.* During the sensorimotor stage (approximately birth to two years), children repeatedly practice behaviors such as grasping or kicking.
2. *Symbolic play.* During the preoperational stage (beginning about eighteen months), children begin pretending that one object stands for another, or they take on a make-believe role in play. Piaget described three increasingly complex forms of symbolic play: constructive play, dramatic play, and games with rules.
   a. *Constructive play.* The child uses concrete objects to represent an object that is as much alike as possible to the child's mental image; for example, a play phone to talk on.
   b. *Dramatic play.* The child creates imaginary roles and situations and may include abstract representations of objects such as a block for a pretend phone. The child uses complex gestures and language for characters and action.
   c. *Games with rules.* When children reach age five or six, their play involves adherence to an external set of rules negotiated before play begins. These discussions prepare them to live in a complex society as they learn to negotiate and abide by group-constructed rules. According to Piaget's views, this type of play marks the child's move from the preoperational to the concrete operational stage of cognitive development.

Smilansky expanded Piaget's theories to include the complexity of sociodramatic play, such as role play, social interaction, and verbal communication. Her system for observing children's complexity in sociodramatic play (1968), a valuable tool for assessment, is widely used by both researchers and teachers.

Just as teachers use instructional techniques for reading, so also do they plan opportunities for spontaneous play, guided play, directed play, or investigative play to incorporate and extend new skills, concepts, and dispositions and the affective domain. These concepts are discussed next.

1. *Spontaneous play.* On the basis of prior experiences, children invent and carry through projects that enable them to explore their own creativity, planning abilities, social strategies, and interests. Generally, the

younger the children, the more the emphasis is on spontaneous play, in which the teacher's role is primarily to set the stage with appropriate, engaging materials; to observe; and to question. When the environment is well equipped and organized, children concentrate for extended periods of time.

The K/1 students have set up a passport office in the dramatic play area. The idea came from Mauricio, who has just returned from visiting relatives in South America. Children pretend to take photos, draw pictures of each other, and write their destinations. Mauricio tells them about the baggage and customs area, so they expand by adding a customs table made of blocks.

2. *Guided play.* Based on children's projects and interests, this type of play is more structured by the teacher who assigns roles, helps children recall sequences, and directs the action.

   Building on children's interest in travel and baggage, Joe brings suitcases of various sizes, which he uses to introduce concepts of estimation and volume. The children fill the suitcases with blocks to verify their hypotheses. Later they graph the volumes.

3. *Directed play.* By demonstrating while children imitate and practice, the teacher conveys any needed skills, strategies, concepts, or facts that children will need for projects.

   For children with special needs, skills learned in one setting may not be easily used in another (Warren and Kaiser 1986); therefore, all young children should have practice in using and applying skills in a variety of appropriate circumstances (Wolery, Strain, and Bailey 1992).

   Joe shows his students how maps and globes represent ideas of space. He demonstrates, helping children make a map of their passport office and customs area.

4. *Investigative play.* In this instructional strategy for first graders or older students, teachers convey particular skills needed to investigate objects and ideas. These projects, thoroughly planned for particular purposes, include (1) play with specific materials; (2) debriefing questions focused on curriculum goals; and (3) replay with new questions or materials based on children's responses during debriefing (Wasserman 1990).

   For a lesson on "Growing Food in Our Community," Joe sets out objects representing growing, processing, and distributing food that were used during several different periods of California history. Children classify the objects according to criteria they invent during the initial play and exploration phase. Joe then asks debriefing questions: "Which objects do we use now and which were used in the past? How can you tell? What would you have to learn about the objects to use them?" During replay, the children construct a three-dimensional map of their community, indicating where food originates. Using previous field trips and photographs, students indicate where food is processed (at the dairy) and distributed (at the markets).

As children enter the first grade and engage in guided and investigative play projects that are increasingly teacher directed, their group projects may continue for several days or weeks.

Group projects and play rely on children learning to work together well. Attempts to collaborate may need to be simplified for early primary children. Kagan (1989) offers a detailed guide on collaborative learning. For example, in preschool and kindergarten, collaborative groups of two children are usually more effective than groups of three or more. Simple roles, such as recorder or supply person, would be more appropriate for these younger children.

First graders, who are beginning to be less egocentric, may form cooperative groups of three or four members, each with a specific role to play. The teacher supports their cooperative efforts through role playing and discussion (Tudge and Caruso 1988).

Understanding Status in the Peer Culture

Children are affected by "personal status variables" such as academic or physical abilities, qualities of leadership, and neighborhood friendship patterns. For example, children from ages four through six are aware of who is the most capable in mathematics or soccer, who creates captivating plots in dramatic play, or who speaks English well enough to translate for peers. Teachers should be aware of status variables to help all children to participate and learn from small-group experiences and to ensure that group projects unfold smoothly (Schwartzman 1976).

Status variables, inevitable consequences of the classroom peer culture at all stages of development, may be powerful influences on children's self-esteem, tolerance, collaborative learning, and respect for diversity. As children grow to respect alternative ways of seeing the world, status variables lose their influence. Teachers help to expand the peer culture by:

1. *Moderating the effects of status variables.* The teacher plans activities to enable each child to maximize his or her development.

   Preschooler Jerome, in his fifth foster home in three years, often disrupts the play of others. Unless Rosa intervenes to sensitively guide Jerome to nonthreatening play activities and behavior, classmates will continue to shun him, resulting in his further alienation and failure to develop socially and emotionally.

2. *Organizing activities to expand the peer culture.* Beyond keen observation and support for children's interests, teachers can expand the peer culture by taking the following steps:
   a. *Help children work together to formulate plans for their play projects and to respect others' plans.* At the preschool and kindergarten levels, teachers might help children role-play how to request entry into others' ongoing play experiences in ways that their peers will honor.
   b. *Help children to extend their spontaneously created projects with others over several days.* By helping students to unfold their work productively, teachers make a positive statement about their efforts and their status in the class.
   c. *Balance spontaneous play, guided play, and direct instruction.* When teachers provide time and materials for students' play projects, as well as for direct instruction by teachers, they foster individuals' recognition of differing perspectives and thus moderate any stultifying effects of status variables.

3. *Encouraging children to reflect on differing perspectives.* By providing opportunities for shared discussion about a class activity or a story, teachers may help children to develop the ability to understand the viewpoint of others.

   Joe brought an old-fashioned adding machine to the classroom. The students discussed keeping it in the manipulatives area (for use during mathematics); the dramatic play area (for the space exploration center); or near the blocks (for the zoo ticket booth). After a debate, the class voted to place it in the zoo for two weeks, then in the manipulatives area.

4. *Viewing intelligence as multifaceted.* Howard Gardner (1983) has described seven intelligences, or intellectual "potentials," that he hypothesizes operate in differing degrees and combinations in human beings: linguistic, logical-mathematical, musical, spatial, bodily-kinesthetic, interpersonal, and intrapersonal. When teachers recognize that knowledge is demonstrated in different ways,

that recognition tends also to moderate the influence of status variables.

Coupled with fostering respect for alternative viewpoints and ways of expression is the need for teachers to be explicit about strategies that represent success for all children. Teachers should set high expectations for all students and be explicit about accepted classroom behaviors, such as how the conventions of standard English usage define success in school. The home language or style of discourse is closer to standard English for some children than it is for others; therefore, teachers need to assist children in understanding and evaluating the situations in which standard English will better serve their needs than will the personal forms of language.

Considering Mixed-Age Grouping in Early Primary Programs

Class-size reduction is causing some increase in the numbers of mixed-age classrooms. Because mixed-age grouping has also been cited as a viable alternative to retention (*Beyond Retention* 1993), a number of school districts are including it in their pupil promotion and retention policies. In light of these occurrences and the research findings (discussed below), school districts may want to consider mixed-age grouping as a potential instructional practice.

Mixed-age grouping can influence children's abilities to relate to the perspectives of others, exercise leadership, and work collaboratively (Goodlad and Anderson 1987). Research studies indicate that a mixed-age grouping in the classroom benefits both older *and* younger children. Research also indicates that students in a mixed-age class do at least as well academically, if not better, in comparison with those in single-age classrooms. Further, the development of social skills and cooperative attitudes of students in multiage groups far exceeds that of students in single-age groups (Katz, Evangelou, and Hartman 1990; *Fact Sheet* 1995).

In comparison to children in single-age classrooms, older children in mixed-age classes tend to increase their leadership and organizational abilities, and younger children in mixed-age classes tend to play at more complex levels and exhibit longer periods of sustained interaction as they stretch their thinking and social behavior to accommodate that of their older playmates. Mixed-age groupings or other arrangements in which children remain with the same teacher and classmates for more than one year are helpful for children with stressful home lives. Enrollment for more than one year also promotes trust and stability in the relationships between parents and their children's teacher.

Simply grouping children in classes with a wide range in ages is not sufficient to realize the benefits of mixed-age grouping cited previously. The curriculum must be modified to provide a variety of activities in which children work together on projects and other activities, preferably in small multiage groups in which each individual can contribute in different ways to the total effort (Katz and Chard 1989; Blumenfeld et al. 1991; Willis 1991). However, it is still necessary to have temporary subgroups of children who need the same kinds of instruction to help them acquire basic skills. When teachers are knowledgeable about the characteristics of children of various ages, various grade-level standards, and relevant teaching strategies, the potential for success of mixed-age groupings will be higher.

Planning for Discipline in Early Primary Programs

"Discipline" is a word taken from the Latin word meaning "teaching, learning." Discipline is a responsibility shared by teachers, children, and parents or guardians. Positive discipline is based on mutual respect. Some children may not yet have learned to take the perspectives of others. Other children with stressful or dangerous lives may hurt others or shun contact. Teachers may not be able to fix what is broken in the lives of such children, but they can provide reassurance, comfort, and love (Wasserman 1990). Longitudinal studies show that educators, parents, and communities are able to offset the impact of stressful life events by fostering resiliency in students (Henderson 1997).

Many young children who represent discipline challenges have not developed their own internal sense of right and wrong (Piaget 1969b). How can teachers and parents help them control their behavior and interact positively with others? The answer is to continually return responsibility to the children and teach new skills of behavior. For teachers to know which skills are lacking, they must observe the activities of the children, while ensuring the safety of all, discuss issues with parents, and then demonstrate and allow time to practice the skill in real situations. Initially it may seem as though an inordinate amount of class time could be spent on modeling and practicing discipline; however, time is being saved in the long run as children learn self-control and responsibility (Nitschke 1998). Before long, discipline problems become infrequent. This transition is accomplished through the following:

1. *Being a "power-to" rather than a "power-over" teacher.* When children in early primary programs challenge rules and hurt or disrespect others, teachers may react by attempting to take power over children and control through punishment, humiliation, or lengthy "time-out." This approach leads to a morality of obedience in which pleasing the adult and avoiding punishment or humiliation are children's primary motivations to behave responsibly. Although a classroom where behavior is controlled by strict discipline and force *appears* orderly, children's activities during recess will show otherwise. Repression breeds violence instead of the collaborative learning that educators hope will take place (Wasserman 1990).

   Teachers who teach within a mode of "power-to" children give them opportunities to behave competently and responsibly. They set clear limits and teach children about choices, consequences, alternatives, and personal satisfaction resulting from their own genuine accomplishments. This "power-to" approach leads to a morality of autonomy in early primary programs (Soderman 1986).

2. *Helping children cope with separation and loss.* Moving to a new home or classroom, experiencing a divorce or death in the family, and undergoing other difficult transitions are frequently occasions for children to feel anxious, sad, or frightened (*Continuity for Young Children* 1997). Early childhood teachers who sensitively discuss issues with parents learn more about children and their background and home experiences. Parents and teachers are now in a better position to offer advice on strategies to help young children cope with changes that disrupt their lives and learning:
   - *Involve parents and families.* Knowing that parents and families sometimes need resources to help them talk with their children about a family crisis, educators may provide a kit with books to read aloud to children, a puppet for role play, and/or a list of possible questions and suggestions for talking with children. To help children who are going to move, a teacher can gather names and addresses of friends and maintain communication by mail with the children after they leave. Many schools use student study teams, composed of the child, one or more family members, and several professionals at the school, to solve difficult issues collaboratively.
   - *Maintain stability and security in the environment.* Teachers need to remain consistent in routines and in their expectations for behavior, offering clear limits, encouragement, and affection.
   - *Make referrals for professional help.* When a family's difficulties are serious enough to require professional counseling for family members, teachers should request the efforts of a school counselor or psychologist, who may refer a family to a competent family therapist or play therapist.

3. *Empowering children to change their behaviors.* Positive discipline requires that some children change their disruptive behaviors in

order to belong to the classroom "family." Specific techniques along a continuum for discipline include maintaining a close relationship, using encouragement rather than praise, using less directive strategies, using direct-control strategies, and using preventive discipline (Greenberg 1992; Tudge and Caruso 1988). Each of these topics is discussed next.

Maintain a Close Relationship

Teachers should have a strong interpersonal relationship with each child and take the time to find out about the child's interests. Teachers' understanding of the child's home and cultural norms, such as the expectations for discipline, traditions, and values, is essential. Unless a child's culture dictates otherwise, eye contact; gentle, appropriate physical contact; and voice modulation directed to the child create a safety net in which a child can feel secure and cared for as limits are set by the adults (Herb and Willoughby-Herb 1994).

Use Encouragement Rather Than Praise

Encouragement builds children's sense of their own competencies rather than conditioning them to seek adult approval. Encouragement does not judge children according to adult standards or make comparisons among children. It is detailed and focuses on processes rather than on products (Hitz and Driscoll 1988). "John, I noticed you spent a long time choosing just the right pieces for your sculpture" is encouraging to the child without setting up a competitive atmosphere that might result from "John, your sculpture is the best in the class."

Use Less Directive Strategies

When children challenge classroom rules or threaten to hurt others, teachers' choices about which action to take range from less directive strategies involving some external control to actively controlling the behavior of children until they are calm enough to reflect on their actions and formulate a plan for correcting their behavior. When children's safety is not an issue, teachers should begin with less directive strategies that remind the child of the limits and give him or her maximum opportunity to self-correct and internalize responsibility. Less directive strategies include nonverbal cues (the teacher stands near a child, makes eye contact, or lightly and appropriately touches a child) or verbal strategies to remind children that they need to correct their behavior (the teacher modulates his or her voice, speaks the child's name, or gives "I statements" about consequences). "Denise, when you throw water on the floor, I feel frustrated because I have to mop it up" is a very different message than, "Stop throwing water now."

Not all children verbalize their feelings (*The American Indian* 1991). Teachers must respect this reluctance and not see it as a challenge. Teachers may ask for clarification from parents or other children involved in disputes. As teachers mediate children's disputes, they model conflict resolution skills (Lawton 1994).

Dan and Miguel are fighting over a water toy. Rosa insists that each describe his own behavior and explain the appropriate class rule. The boys are not able to say the rule in their own words, so Rosa clarifies it by restating: "When the person using the toy has finished, we ask for a turn." Rosa then requests an agreement by the boys to ask for the toy. The boys then take turns practicing what they will say. A teacher of older children might ask them to predict how they would handle similar situations in the future.

Use Direct-Control Strategies

Sometimes it is necessary for children's social and emotional development or for the safety of the child(ren) for the teacher to intervene more directly, as discussed in the material that follows:

Redirection. The teacher may calmly talk to a misbehaving child and suggest another area or activity in which to participate; for example, quietly reading a book, listening to music, or observing the class pet. This redirection may help a child regain control.

Redirection to relieve children's aggression. Another direct-control strategy is to offer materials that will help to release and transform aggression. Pounding clay, building and knocking down block towers, or drawing with crayons allows children to express anger physically. As the physical play enables the anger to subside, children may use these same materials to create something or to soothe themselves as they explore the materials' properties.

Time to refocus. "Time-out" was the original technique used for children who were out of control; however, "time-out" should not mean that the child is exiled from the group, but instead that he or she has time to refocus and gain control. This temporary disciplinary method is used to calm a disruptive student. The child is escorted for a short while to a safe, quiet setting, such as on the classroom couch, to reflect on his or her behavior and regain emotional equilibrium. An adult should sit with the child, who, when calm, may be able to talk about what happened and the rules for appropriate behavior. Together they form a plan for the child to return to the group or to select another activity. Time to refocus for early primary-age children should never exceed five to ten minutes or, for preschoolers, even less time. Just leaving a child with no adult guidance for regaining inner control does not help the child or result in any long-term improvement in behavior. When "time-out" is used as a punishment, it loses its effectiveness for offering a safe location to regain composure and ponder alternatives (Paley 1990; Ballenger 1992; Nelson and Glenn 1992).

Use Preventive Discipline

Some of the most effective strategies for discipline in early primary programs are preventive strategies, such as planning a developmentally based, challenging curriculum or adjusting the physical environment and daily schedule to accommodate children's temperamental characteristics. (*Temperament* relates to patterns of behavior children are born with, such as distractibility.) Teachers can mitigate environmental factors, such as noise, intensity of light, the availability of private places, and pacing of the day so that interactions with the children's temperamental qualities do not become challenges to discipline.

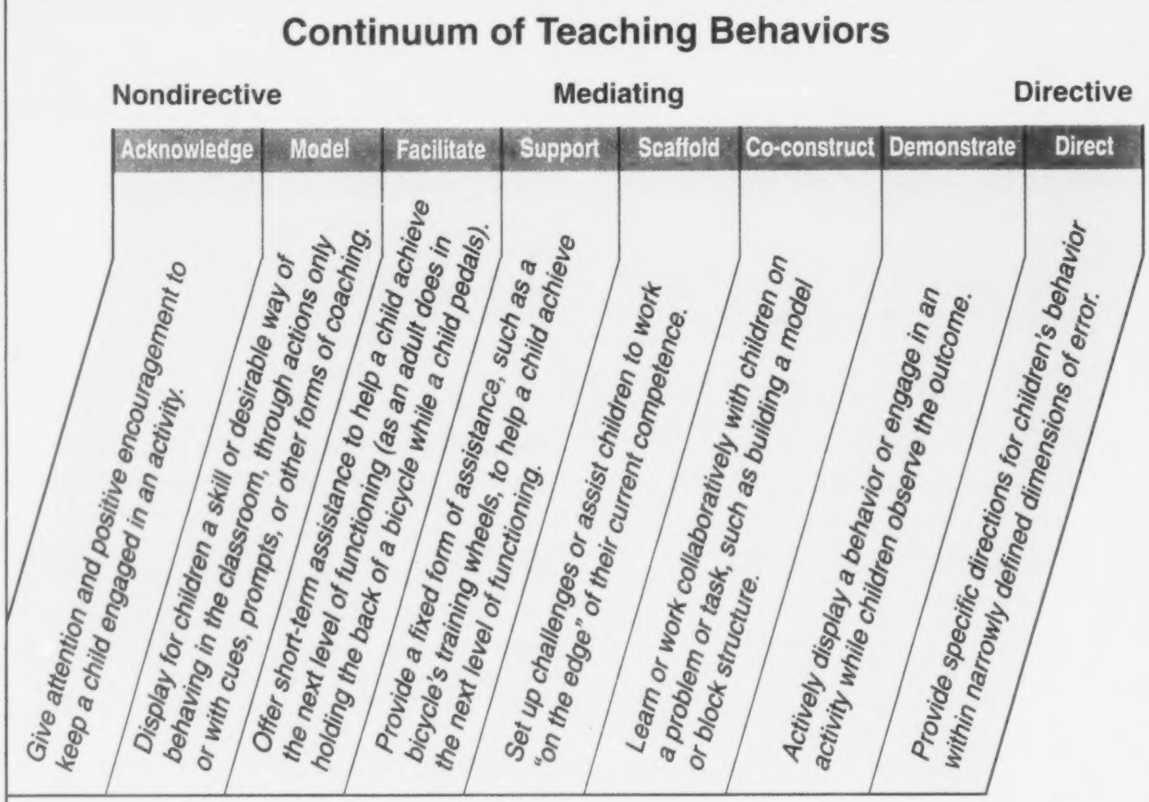
Five-year-old Angela is sensitive to touch and quick to anger. Joe gives Angela extra notice before cleanup time and other transitions, talking softly to let her know that he will flick the lights to signal when it is time to put her things away and what will follow the transition.

In a classroom that is based on children's culture and development, the curriculum is challenging (but not so difficult as to cause stress) and integrated across disciplines, when appropriate. Play and active learning are incorporated, and children are provided with opportunities to make choices, construct alternatives, and negotiate ideas. When children are neither bored nor frustrated and when they have many opportunities to see themselves as competent persons, friends, and learners, they rarely need disciplinary intervention.

Understanding the Roles of the Teacher

Adults play a critical role in supporting children's learning. Figure 4-2, "Continuum of Teaching Behaviors," illustrates the range of early childhood teaching behaviors in a continuum from less directive to more directive. Any one of these behaviors may be appropriate at some time, but sole reliance on any one strategy is ineffective (*Reaching Potentials* 1995, p. 21).

Vygotsky's theories of learning also have implications for teachers' roles (1967, 1978). While young children need opportunities to become aware of and explore various topics and subject areas, they also need adult support to reach new levels of competence. Vygotsky states that when teaching in the zone of proximal development, teachers help a child select appropriate and challenging materials and activities, adjust activities to an appropriate level of challenge that is not frustrating to the child, vary the degree of assistance they provide according to the child's needs, and revise expectations according to the child's growing abilities. The zone of



Continuum of Teaching Behaviors

Nondirective — Mediating — Directive

Acknowledge	Model	Facilitate	Support	Scaffold	Co-construct	Demonstrate	Direct
Give attention and positive encouragement to keep a child engaged in an activity.	Display for children a skill or desirable way of behaving in the classroom, through actions only or with cues, prompts, or other forms of coaching.	Offer short-term assistance to help a child achieve the next level of functioning (as an adult does in holding the back of a bicycle while a child pedals).	Provide a fixed form of assistance, such as a bicycle's training wheels, to help a child achieve the next level of functioning.	Set up challenges or assist children to work "on the edge" of their current competence.	Learn or work collaboratively with children on a problem or task, such as building a model or block structure.	Actively display a behavior or engage in an activity while children observe the outcome.	Provide specific directions for children's behavior within narrowly defined dimensions of error.

Source: Reaching Potentials: Transforming Early Childhood Curriculum and Assessment. Vol. 2. Edited by Sue Bredekamp and Teresa Rosegrant. Washington, D.C.: National Association for the Education of Young Children. 1995, p. 21. Reprinted with permission from the National Association for the Education of Young Children.

Figure 4-2

proximal development is the hypothetical, dynamic region in which learning and development take place. It is defined by the distance between what a child can accomplish during independent problem solving and what he or she can accomplish with the help of an adult or a more competent member of the culture (Berk and Winsler 1995, p. 5).

Young children with special needs should receive developmentally appropriate early education in programs adhering to guidelines of the National Association for the Education of Young Children or the National Association of Early Childhood Educators in State Departments of Education, but these programs should be adjusted to be maximally beneficial to those children and their families. Special needs educators offer guidance on designing classroom services and monitoring adjustments to those services and suggest additional resources that teachers should be familiar with in order to make critical education decisions (Wolery, Strain, and Bailey 1992).

Such highly professional teaching decisions are possible only when educators understand the many ways in which children develop and learn and the varieties of activities that promote each child's development and learning. In addition, teachers must have a sense of the continuum of learning in the various subject areas and the ability to assess children's growth systematically and continuously. They also must understand the important role of sociocultural context and its influence on learning. The early childhood teacher is key to young children reaching their potential.

BEST COPY AVAILABLE

CHAPTER 5

Applying Child Development Principles to Curriculum

This chapter shows how the principles of child development can guide educators' decision making about curriculum and instruction. Subject-area leadership is found in grade-level academic standards and in new curriculum frameworks and guides published by the California Department of Education. As acknowledged in *Every Child a Reader* (1995) and in *Teaching Reading* (1996), learning that occurs in preschool and early elementary school provides the foundation for progressively and increasingly complex cognitive development. Quality early child development and education programs also emphasize physical, social, and emotional growth. Certain key developmental goals for young children are universal: active exploration, critical thinking, communication, and observation. One important task of the teacher is to mesh these child development goals with principles mentioned in Chapter 1 into a balanced, comprehensive curriculum for young children. Each section of Chapter 5 presents relevant information, research, and examples for a particular subject area. Chapter 6 addresses integration across subject areas.

Incorporating Standards into Educational Programs for Young Children

A historic change in education is taking place in California and across America: the development of academic standards that clearly identify what all students should know and be able to do at each grade level. This chapter presents general information on what standards are and how educators may incorporate them in their programs for young children. While this document provides sample learning activities based on standards in each separate subject area, it is not meant to be a blueprint for a teacher's complete program. Its purpose rather is to help teachers consciously and competently make educational decisions about young children. The reader is also referred for additional information on various subjects and standards to Chapter 6 and to the California curriculum frameworks.[1]

What Are Standards?

Academic content standards define what all students should know and be able to do. They describe the knowledge, skills, and understanding that students should have in order to attain high levels of competency in challenging subject matter. Performance standards identify the levels of achievement that are set out by the various subject areas' content standards (*High Standards for All Students* 1994).

High standards let everyone know what is expected. Students learn more when more is expected of them, at school and at home. Standards also help create coherence in educational practices when teacher education, instructional materials, and assessment practices are aligned.

The Child Development Division of the California Department of Education is developing standards called "Desired Results for Families and Children." It is anticipated that this effort will cause modifications in the existing program quality standards and in the procedures for measuring program performance to include the monitoring of desired results. The Child Development Division is also developing preschool guidelines to help early childhood educators plan and deliver quality programs. For more information, the reader is directed to the Department's Child Development Division.

How Are Local Standards Developed?

Elementary schools and child development programs may use state standards or develop their own, which are to be at least as rigorous as the state standards. The following programs are currently required to adopt and implement rigorous standards as well as to monitor and report the achievement levels of each student:

- Schools that are federally funded
- Schools in districts scheduled for Coordinated Compliance Reviews
- Schools that are applying for recognition as a California Distinguished School; a National Blue Ribbon School; or an IASA, Title I, Achieving School

There is no single correct method to develop standards; however, a typical sequence of action steps may include the following:

- Organize a district steering committee of educators, parents, and others to design and guide the development process.
- Present a development timeline to the district management team and school board.
- Convene a communitywide task force to develop consensus about what students should learn in the subject areas.
- Draft subject-area standards and grade-level expectations.
- Present draft standards to the steering committee, management team, and school site councils for recommendations and modifications.
- Present the first draft of the standards to the school board as an informational item and ask for revisions.
- Present the revised draft standards to a communitywide task force for suggestions for modifications.
- Submit the standards to the school board for adoption.

---

[1] The State Board of Education has now adopted standards for English-language arts, mathematics, history–social science, and science. The frameworks for reading/language arts and mathematics have been revised to incorporate these standards and will be available for purchase in the summer of 1999. The reader is encouraged to obtain copies of these standards and frameworks from the California Department of Education. Additional information can be obtained from the Department's Web site at <http://www.cde.ca.gov>.

How Are Standards Implemented?

Review, comparision, and adjustment of local standards will result in alignment to state standards. Schools, district teams, or child development teams also review curriculum to ensure that it is aligned with the grade-level standards and that the materials used develop students' knowledge, skills, and understanding to meet the standards. If curriculum or materials are not aligned, this review process should identify areas for professional development or materials acquisition or both. Educators must then modify curriculum or instructional materials to support priorities for the standards.

The educational community should also review classroom, school, and district assessment practices to ensure they are aligned with the grade-level standards. Educators should agree on the kinds of behaviors or products students will exhibit to indicate they have achieved a particular standard. This agreement is reached through dialogue on performance indicators, such as a rubric for judging writing assignments, collections of examples of children's work, a review of the evidence, and a decision about how good is good enough. Children should be given multiple opportunities to demonstrate their achievement, the results of which are combined to determine whether students have met the standards (Jamentz 1998).

Jamentz (1998) offers suggestions on implementing standards, based on her work with numerous northern California schools and districts. Her steps in planning instruction are as follows:

- Select standards from among those that students need to know.
- Design an assessment through which students will have an opportunity to demonstrate their understanding and skill.
- Decide which learning opportunities are needed so that students can learn those things.
- Plan instructional opportunities to ensure that each student has adequate opportunities to learn.
- Use data from the assessment to give feedback, reteach, or move to the next level.

At the end of each school year, staff members, the school-site council, and others review the schoolwide goals and students' progress toward mastery of expectations. Findings are used to diagnose, modify, and enhance the instructional programs. This collaborative process ensures a consistency of instruction and assessment. Reports are provided to the school board, advisory committees, and others on the results of the evaluation.

This space is provided to file related materials.

50

Reading–Language Arts for Young Children

Human language is both a *personal invention*—something each individual creates from within—and a *social convention*—something that is shared by members of a society (Whitmore and Goodman 1995). All children arrive at school with significant understandings of how language works. Effective teachers respect and capitalize on this literacy background so that children achieve or exceed grade-level standards and value reading throughout their life. Because oral communication, reading, and writing are complex skills, it takes instruction, practice, and time for a child to become completely literate. Effective family and preschool literacy programs and activities contribute tremendously to this fostering of literacy.

To improve student achievement, the California Reading Task Force recommended (*Every Child a Reader* 1995, p. 2) that all students have a balanced and comprehensive language arts program which includes (1) a strong literature, language, and comprehension program that includes a balance of oral and written language; (2) an organized, explicit skills program that includes phonemic awareness, phonics, and decoding skills to address the needs of the emergent reader; (3) ongoing diagnosis that informs teaching and assessment that ensures accountability; and (4) a powerful early intervention program that provides individual tutoring for children at risk of reading failure. An essential language arts goal is that all children should be reading at or above grade level by the end of third grade. The California Reading Task Force also recommended that at least one-third of the day in kindergarten and one-half of the day in primary grades be devoted to language arts. The *Reading/Language Arts Framework* recommends an allocation of 2.5 hours of instructional time each day to reading and language arts in the primary grades.

Additionally, the task force recognized the important role that families, caregivers, and preschool teachers play in ensuring a literate society. Literacy begins in the home with infants' first forms of language—crying, cooing, babbling and, later, gestures.[2] In literate households parents and others converse with children, provide reading and writing materials, and show their own use of reading and writing. Teachers, as well as community organization members, should find ways to support parent involvement with their children's literacy activities.

A National Institute of Child Health and Human Development study found that toddlers and preschoolers in the care of adults who talked to and with them did better academically in elementary school (*Mother–Child Interaction* 1997). Society prevents reading difficulties by reducing the number of children who enter school with inadequate literacy-related knowledge and skill (*Preventing Reading Difficulties* 1998). Even illiterate parents support literacy when they tell their children stories, point out examples of print in their lives, and encourage and support children's literacy efforts.

Preventing Reading Difficulties in Young Children (1998, p. 9) recommends that all children have access to early childhood environments that promote language and literacy growth and that address a variety of skills that have been predictors of later reading achievement. It further recommends that preschool programs "be designed to provide optimal support for cognitive, language, and social development within this broad focus; however, ample attention should be paid to those skills that are known to predict future reading achievement, especially those for which a causal role has been demonstrated. Similarly, and for the same reasons, kindergarten instruction should be designed to stimulate verbal interaction; to enrich children's vocabularies; to encourage talk about books; to provide practice with the structure of sound in words; to develop knowledge about print, including the production and recognition of letters; and to generate familiarity with the basic purposes and mechanisms of reading."

As the child starts school, language experiences become increasingly complex and may include

---

[2] *Literacy* is a broad term, incorporating aspects of listening, speaking, reading, and writing to communicate with others. In this document the term *literacy* is used to refer to these aspects and to relate more generally to language arts activities. When the text specifically refers to reading instruction or decoding text, the term *reading* will be used. In early development, reading, writing, and oral language are difficult, if not impossible, to isolate from one another.

BEST COPY AVAILABLE

involvement with other cultures and languages. Because all children develop at their own rates, influenced by maturation and environmental experiences, it is impossible to provide a precise age-related schedule (Whitmore and Goodman 1995); however, a child's dynamic development progresses toward greater complexity and internalization.

As in all learning, motivation is critical. Most children begin preschool and elementary school with positive attitudes and an expectation to succeed. Teachers and family members encourage that positive attitude and joy of reading by relating to the individual child and supporting each child's literacy development. The ideas presented below help children to make sense of the English language; learn and integrate reading, writing, speaking, and listening; and empower them as capable learners. Students who succeed in these activities will be high achievers who take pride in lifelong learning.

Every Child a Reader lists essential components of a balanced and comprehensive reading program and suggested learning goals and activities for each grade level, preschool through third grade.[3] While *First Class* borrows from the *Reading/Language Arts Framework* and the sample timelines from *Every Child a Reader*, experienced and well-trained teachers weave these components together. As Marilyn Adams states, " . . . the parts of the reading system must grow together. They must grow to one another and from one another" (author's emphasis) (1990). They make sure each child receives the necessary stimulation, support, instruction, and practice to develop strong literacy skills and a love of reading. Realizing that no one teaching method or approach is likely to be effective for all (Strickland 1994), good teachers vary their teaching strategies (*Learning to Read and Write* 1998). The examples used throughout this text are meant to apply to preschoolers through first graders unless otherwise stated.

Component 1. Oral Language, Listening, Speaking, and Vocabulary: Setting the Stage for Reading

Speaking is using sounds, language, and/or gestures to communicate. Listening is an active process in which the mind converts spoken language, sound, or gestures into meaning. Speaking and listening abilities are critical factors in young children's cognitive, social, and emotional development. Young children build a foundation for reading and writing through oral communication about everyday experiences. Similarly, speaking and listening are integral in a child's first experiences with books. Early childhood educators foster literacy when they prepare an environment that helps children experience the importance of communication.

Because California students speak many languages and dialects, it is important that early childhood educators respect and build on their students' oral language background. Teachers assess all young children's speaking and listening abilities; this assessment can be best accomplished during familiar classroom activities. Deficiencies evident as a result of multiple assessments alert the teacher to the need for further, immediate evaluation by a specialist.

Oral language development is fostered by adults who listen, respond, ask questions, and engage children in conversation. Teachers create classroom environments that support oral language development by:

- Providing interesting materials that are related to books read to children and that captivate children's interest and compel conversations;
- Equipping and regularly changing a dramatic play center that is related to class themes;
- Including time for play that generates language functions and linguistic forms that are more advanced than children's natural speech (Fein 1981);
- Using room arrangements to encourage language and buffer children from extraneous noise or other distractions;
- Building on prior home language experiences (e.g., discussing and examining items represent-

---

[3] A valuable resource is the University of Michigan Web site for the Center for the Improvement of Early Reading Achievement found at <www.ciera.org>. An additional literacy activities resource for educators and parents is *Starting Out Right: A Guide to Promoting Children's Reading Success* 1999.

ing cultures of students in the class or school, such as chopsticks in the dramatic play area);

- Scheduling informal and formal language activities to build vocabulary and concept development (e.g., seashore props, such as shells, sand toys, a towel, are placed on the sand table);
- Providing flannel board characters for favorite stories in the class library;
- Scheduling "show-and-ask" activities during whole-group time; and
- Holding rich discussions in small groups to encourage conversations and help the teacher better know the students.

Herb and Willoughby-Herb (1994) suggest teachers use a range or continuum of conversation starters, shown below from the least to the most intrusive. A child's response indicates whether the child is ready for more complex interactions.

- *Self-talk.* The teacher engages in an activity similar to the child's and describes it: "I am looking for the edges of the puzzle." The child's response might be to watch and listen, imitate, participate nonverbally, or join in a verbal exchange. A verbal response means the teacher should move on the continuum to a more complex conversational technique.
- *Parallel talk.* The teacher uses words to describe the child's activity or materials: "You picked up the yellow car." Parallel talk helps a child learn new vocabulary and explore concepts in a nonthreatening way since a verbal response is not required.
- *Leading statements.* The teacher begins sentences with such phrases as "I wonder . . . , I hope . . . , I think . . ." that invite the child's participation but do not force it.
- *Affirming responses.* As a child becomes comfortable speaking, the teacher's role is to extend the child's vocabulary, concepts, or usage by responding, showing a genuine interest, and elaborating on what the child has said.
- *Modeling varied uses of language.* As the teacher models language usage, children learn that speech is an interchange of ideas and begin to take turns in conversation, greet people, and assert themselves in acceptable ways.
- *Questioning.* Teachers cautiously stimulate conversation with questions because this technique is the most fragile of all methods. The teacher makes questions understandable and less threatening by asking about a child's activities or interests and by using familiar expressions.

Dramatizing is another technique to improve children's oral language development. In *Play at the Center of the Curriculum* (Van Hoorn et al. 1993), the authors summarize Smilansky's intervention with preschool children whose dramatic play lacks complexity. Smilansky's strategies use extended role play, verbalization, and sociodramatic play to help children create their own plays. (Preschoolers' plays may be only one or two sentences in length.)

Children may also need guidance to become better listeners. Children listen better when adults help them concentrate on meaning (Jalongo 1996). For example, before the librarian arrives, the teacher asks students to listen for answers to two questions: What does the library have for children to use? How do you borrow something from the library?

Expansion of children's vocabulary may result from a wide range of activities and lessons emphasizing literature, language, comprehension, and explicit skills instruction. Research supports the connection between maternal conversation and the development of children's vocabulary skills (Reese 1995). Research also shows that students who read more have increased vocabulary (Nagy, Herman, and Anderson 1985; Elley 1998) and that there is an important place for instruction (Nagy 1988).

Rather than have young children spend valuable class or home time memorizing lists of vocabulary words, teachers can use the following more efficient strategies to help children, especially those who are at risk of not becoming successful readers, comprehend new vocabulary: providing opportunities for extensive class discussion, independent reading, or read-alouds; helping children access their background knowledge (or providing that background knowledge through meaningful classroom experiences before the actual lesson); using thoughtful discussion and making-words activities (see Joe's vignette on p. 50); having students edit their writing (to find the best words to use); and teaching contextual clues. Studying affixes and derivations from Latin and Greek is best reserved for older students. Another way to increase vocabulary is to have students associate words using Marzano superclusters, which are words grouped around a particular topic or area of study (Marzano and Marzano 1988).

Joe wants to expand his students' vocabulary while they study science and social studies units. He discovers that the Marzano animals topic, or supercluster, has 289 words typically found in elementary school textbooks. He orders additional books on animals for students to use in independent reading and regularly schedules language arts lessons on the topic of animals. He lists special vocabulary related to animals each day or two on his science bulletin board, and children see additional vocabulary in the animal sections of science textbooks during read-alouds. Children list new words with definitions or descriptions and illustrations for the bulletin board. Each day one or two children present informal mini-reports on their readings to the class.

Component 2. Awareness of Sound, Symbol, and Structure

The heart of a balanced, comprehensive reading program is the relationship between explicit and systematic skills instruction and literature, language, and comprehension. Children's development in all these areas is necessary to enable them to understand and convey meaning from print. Decoding skills alone are insufficient to develop good readers; however, no reader can become proficient without these skills.

Effective instruction in decoding and comprehension skills is explicit and systematic. *Explicit* skills instruction refers to taking care to teach key points and principles. *Systematic* refers to building gradually from basic elements to more subtle and complex patterns. The goal is to convey the logic of the system and to invite its extension to new material the children will encounter on their own. When educators teach skills only as they "crop up" in the context of other lessons, all students may not make vital connections to the wide range of skills needed to become proficient readers. The teacher needs to plan effectively so that all students learn skills in a systematic, explicit manner and integrate them into meaningful, interesting classroom activities.

Concepts detailed in this section include phonemic awareness, print awareness, letter recognition, decoding and word recognition, word families, high-frequency words, and syntactic and semantic awareness. While opportunities to acquire reading concepts are offered in preschool, some classroom activities delineated below more appropriately begin in kindergarten or first grade. The framework can provide additional guidance in these areas.

Phonemic awareness. Phonemes are the smallest units of spoken language. For example, there are three phonemes in *man /m/, /a/, /n/* and four phonemes in *enough /e/, /n/, /u/, /f/*. Phonemic awareness, for which research studies have been done primarily during the last decade, is the ability to hear and manipulate the sounds in spoken words and the understanding that spoken words and symbols are made up of sequences of speech sounds (see "Developing Phonemic Awareness in Young Children" in Appendix A and *Preventing Reading Difficulties* [1998]). Children's development of phonemic awareness is a strong indicator of future reading success. If children do not develop phonemic awareness, it will be difficult for them to make sense of phonics instruction, which is mapping speech to print.

Research shows that phonemic awareness is both a prerequisite for and a consequence of learning to read. Oral language activities—rhymes, chants, songs, stories, riddles, and word play—help young children build phonemic awareness. Once children have some understanding of phonemic awareness, this insight and experience help them couple oral language with print (Hohn and Ehri 1983; Perfetti et al. 1987). Studies indicate that while all young children benefit from explicit assistance with and instruction in phonemic awareness, at least one-fifth of the children depend critically on it (*Teaching Reading* 1996). While many children will learn phonemic awareness through stories and word play, teachers should provide immediate and intensive intervention to midyear kindergartners who do not exhibit typical phonemic awareness skills. Support for phonemic awareness in the following sequence should occur in preschool through the end of first grade (or longer if a child still does not indicate phonemic awareness):

- Hear separate words of sentences.

  Rosa shares, "I use The Listening Walk *(Showers 1991) to help children carefully attend to the separate sounds a little girl and her father notice on a walk around town."*

- Tell whether a pair of words rhyme or not (aural skill).

  Rosa states, "I use books like The Hungry Thing *(Slepian and Seidler 1988) to playfully emphasize the sounds of rhyming words."*

- Engage in alliterative language play (e.g., activities in which the child listens for or generates words that begin with a specific initial phoneme). This activity marks the typical limits of phonemic awareness instruction for preschool, although K/1 teachers may also instruct in these areas.

  Rosa's phonemic awareness activities occur throughout the day, such as when she tells students to line up if their name begins with a particular sound.

- Break up words into syllables (e.g., clapping syllables).
- Use phoneme isolation for beginning, final, or medial sounds (e.g., identify the final sound of *pencil* as */l/*).
- Use phoneme counting (e.g., being able to determine that the word *sit* has three sounds).
- Use phoneme blending (e.g., when orally given the sounds */a/, /t/*, children can blend them to make the word *at).*

  Joe shares, "My K/1 students start blending with onsets and rimes.[4] Later we blend phonemes to make whole words. Before reading the book Six Sleepy Sheep *(Gordon 1991), I tell students the story is about /sh/, /ee/, /p/ and ask what characters they expect. At this advanced stage of phonemic awareness, I emphasize the printed letter and its sound. Using Elkonin blocks (see Figure 5-1, "Elkonin Blocks") on the overhead projector (OHP), I ask a child to place a bottlecap on the box where he or she hears the /m/ sound in me. Later we place transparent alphabet tiles in the Elkonin blocks on the OHP."*

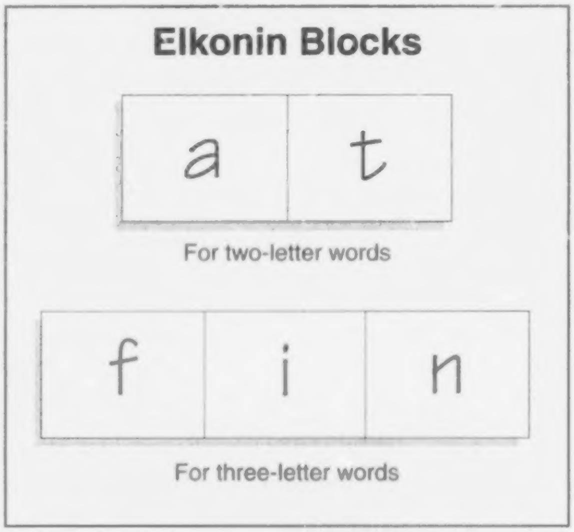


Figure 5-1

- Use phoneme substitution (e.g., by changing the */t/* in *Tommy* to */m/*, students identify a new word as *mommy).*

  Joe's students substitute phonemes during music time. "We sing 'Someone's in the Kitchen with Dinah,' substituting various consonant sounds or blends. 'Fe-Fi-Fiddly-i-o' becomes 'Ze-Zi-Ziddly-i-o.'"

- Use phoneme addition (e.g., by adding */t/* to *rim*, the children would identify the new word as *trim).*
- Use phoneme deletion (e.g., leaving out sounds to create new words, as when the children omit the */s/* from the beginning of *spin* to make *pin).*

---

[4] A rime is a vowel and the consonants that follow in a syllable, as *an* in the word *pan*. The onset is the letter(s) before the vowel (see Appendix A).

- Use phoneme segmentation (e.g., isolate the sounds they hear in *cat* as */c/, /a/, /t/*).

Joe states, "I use playful word games, rhymes, and books that stress sounds of words.[5] *I systematically teach skills, but my students don't realize it; they're having too much fun with the sounds in* Moose on the Loose *(Ochs 1991). I observe which children understand the various levels of phonemic awareness, and for those who do not, I form small groups to provide more direct instruction. I have phonemic awareness activities every day so that children grasp sound-symbol correspondence."*

Print awareness. Two- and three-year-olds think that pictures in a book tell the story. As they gain more experience, they notice that a person reads the print, not the pictures (Schickedanz 1999). Print is the letter forms that we read and write along with the other written language conventions—punctuation, space between words, paragraphs, and other visual signals—that help us make sense of what we read. During reading or writing, teachers draw children's attention to special reading terms, such as *word, letter, sentence,* and *sound,* and to other concepts about print (see Figure 5-2, "Concepts About Print"). Children's phonemic awareness should not delay their exposure to print.

As a result of being in a literate environment, young children gradually develop awareness of the

Concepts About Print

Listed below are concepts about print that children become aware of in learning to read.

Directionality

- The front and back of a book
- The top and bottom of a page or picture
- Left to right and top to bottom, left page then right page
- Where to start reading
- Where to go after the end of each line of print (return sweep)

Meaning

- Letters relate to sounds.
- Print contains a message, makes sense, and tells a story.

Print

- A letter compared with a word
- The first and last letter of a word
- Letter and word order

Mechanics

- The functions of space, such as between words
- Meaning of punctuation
- Upper- and lower-case letters

Figure 5-2

---

[5] See the *Reading/Language Arts Framework* 1999 and Yopp's "Teaching Reading" (in Appendix A) for examples of reading materials that emphasize various phonemic awareness skills.

BEST COPY AVAILABLE

concepts about print. However, early childhood educators should not assume that children are "getting it" just because the classroom has a lot of print. Research studies clearly demonstrate that at-risk children progress more rapidly when they receive explicit instruction in the concepts about print (Dole et al. 1991; Johnston and Allington 1991).

Preschools and families make a difference in children's ability to read. What a child learns incidentally about the form and function of print during 1,000 hours or more of storybook reading before starting school will help him or her make better sense of beginning reading instruction (Adams 1990). For children to recognize the meaningful, functional uses of print, family members and teachers provide an abundance of print and draw children's attention to it during conversation (see "Maximizing Literacy in the Classroom" in Appendix A). The following are examples of print in the child's environment that early childhood educators may use at school and suggest to parents:

- *Labels.* Use of children's words, when possible, to label equipment helps them return items to their correct location. Pictures or photographs accompanied by corresponding words are helpful for young children to see their relationship.
- *Charts and lists.* Charts convey directions; serve as learning resources (pictures and names of children in alphabetical order); organize the class (attendance roster or the calendar); show written language as a reminder (children sign up for the computer and, when done, find the next child on the list).
- *Materials and activities.* Various materials emphasize print (magnetic letters, recipe cards). Activities may encourage children to notice print (interactive question cards: "Can you find the catfish in the aquarium? Draw its picture.").
- *Books and other resources.* Resources include a variety of interesting informational and narrative books and magazines, poetry, newspapers, computer software, riddle and joke books, and other examples of printed material. Books may be purchased new or used; borrowed from libraries, friends, and toy-lending libraries; written by children; or supplied and read by classroom guests.

Children also learn to understand print by writing. Early writers as young as two years old write scribbles that over time become increasingly complex. Children's writing skills are not ruined if children are *allowed* to write before they *can* write. Writing is an instructional context within which children can learn a great deal about letters and their related sound (Pinnell and Fountas 1998, p. 93). Indeed, writing teaches many important concepts from which children can develop the confidence that they *can* write.

Letter recognition. Familiarity with the letters of the alphabet is another powerful predictor of early reading success (Bond and Dykstra 1967; Chall 1995). Learning to name and recognize letters accurately is a critical step in learning to read because it is easier to:

- Learn about letter sounds and word spellings when one does not struggle to distinguish individual letters;
- Concentrate on recognizing patterns of letters—a key to reading; and
- Recognize some of the corresponding sounds that are closely associated with the letter names.

This knowledge helps a child understand the alphabetic principle.[*] Researchers describe a period during which a young child conceives of a certain letter as representing a person or object (e.g., every time Timmy sees a *T*, he thinks it's his name) (Ferreiro 1986; Ferreiro and Teberosky 1982). Activities such as singing the alphabet song, reading alphabet books, playing with alphabet magnets or puzzles, and being exposed to lots of print help preschoolers learn letters in a playful, relaxed way. A goal for kindergartners is to recognize and name letters and know their sounds by the end of the school year (*English–Language Arts Content Standards* 1998). Activities using children's names are a meaningful way to teach letters and corresponding sounds (Cunningham 1995). Teachers of English learners should represent a sound with objects or pictures that have the same beginning sound in other languages (e.g., using a tiger picture to represent the /t/ sound because its Spanish equivalent is *tigre*). Several companies publish teacher resources with examples of these cognates.

---

[*] The alphabetic principle is the assumption underlying alphabetic writing systems that each speech sound or phoneme should have its own distinctive graphic representation (*Learning to Read* 1997).

Rosa's students enjoy making alphabet letters using play dough. Sometimes the children individually make peanut butter play dough, but only after Rosa initially sounds out parents' feelings about this activity. She is sensitive to the fact that parents might construe the activity as "playing with food." Rosa says, "We also sing the 'Alphabet Song' as I point to each letter. Sometimes I dismiss children by holding up their name cards." Joe writes as his K/1 students compose the daily news. Then he calls their attention to particular letters as they stick transparent, colored tape over them. The children become familiar with the alphabet through this and other shared reading and writing experiences. Each child also publishes personal alphabet books.

Decoding and word recognition. Reading in English is based on the alphabetic principle. The purpose of phonics instruction is to teach kindergartners and first graders systematically and explicitly to decode: to associate letters and letter patterns with sounds, blend letters into words, and practice with related decodable text so that those children can learn to read fluently and automatically while they comprehend meaning (Adams 1990; Pflau et al. 1980; *American Educator* 1995). For the beginning reader, phonics instruction should reinforce the notion that, in addition to sounding out words, the reader is expected to gain meaning and information from the text. And the study of phonics should not overshadow an abundance of engaging experiences in reading, listening to books, and writing for a variety of purposes.

High-utility sound-symbol relationships should be explicitly taught (Shefelbine 1995). Instruction in a relatively small number of patterns is especially useful because they apply to so many words. Research results indicate that the usefulness of the most frequently occurring vowel spelling-sound relationships is quite high—above 80 percent. Students should be instructed in consistent and regular letter patterns rather than in those that rarely occur or are inconsistent (see "Learning and Using Phonics in Beginning Reading" in Appendix A). Practicing with a limited number of consistent phonics rules helps students to (Ehri 1991):

- Recognize a high percentage of decodable words linked to a specific phonics lesson;
- Blend sounds together;
- Use word families to expand their reading vocabulary quickly and efficiently; and
- Move toward fluent independent reading in which gaining meaning is of the highest importance.

Once students start to grasp concepts of phonemic awareness and letter recognition, it is appropriate to begin phonics instruction. At this point phonemic awareness activities and phonics can be taught together, mutually reinforcing each other through shared reading and writing experiences.

Phonics instruction should not be composed of repetitive drill and complex lists of rules to memorize. Instead, phonics should be an active, meaning-making activity taught in the context of words, sentences, a story, or a poem and then proceed to word play (children change parts of words and note similarities and differences), practicing blending and applying the skill in the context of a new text.

Joe explains, "Every day we do a making-words activity (Cunningham 1995). Each child in a small group gets a set of laminated letter cards—uppercase on one side, lowercase on the other; consonants written in black, vowels in red, and y *in green. Today each child has cards for* n, p, r, t, i, *and* u. *I have the same letters, only larger, on the chalkboard ledge. The children name the letters, and I write a 2 on the board. I ask them all to make the word* it *with two letters. One student shows the answer with ledge letters, and they each check their own spelling. I place a preprinted index card with the same word in a pocket chart. Next, I ask them to change one letter and make the word* in. *We form other two-letter words in the same way, and I place the index cards in a column in the pocket chart. Next I write a*

3 on the board. I ask them to add a letter to in *to make* pin. *Three-letter words go in a new column of the pocket chart. They continue to make the words* pit, rip, nut, rut, runt, punt, print *and* turnip. *Some children like to guess what the last word will be. Afterwards they might regroup some pocket chart words to show rhymes. They are actively discovering how our alphabetic system works, without requiring the eye-hand dexterity of writing. This activity also teaches the decoding strategy of breaking an unknown word into smaller known words to read it. When there is new vocabulary, especially for English learners, I sometimes use props or pictures, in this case a real turnip."*

Phonics instruction for English speakers typically emphasizes consonant sounds and then short vowels, usually beginning instruction with sounds that can be "held" or prolonged at the beginning of students' names, such as */m/* in *Mary.* Teachers instructing Spanish speakers should build awareness of specific sounds in English that do not appear in Spanish (such as a distinction between *b* and *v*). Appendix D includes "Phonics for Spanish Speakers," which provides guidance for teaching in an alternative educational program as established under the parental waiver option in *Education Code* Section 311(c). For more information readers are also referred to the *Reading/Language Arts Framework, Kindergarten Through Grade Twelve* (1999).

Once students begin to acquire knowledge of sound-symbol relationships, they need practice applying this knowledge to identify words, read decodable text, and use in their writing. It is helpful for beginning readers to have instructional resources that reinforce the taught sound-symbol correspondence and sight vocabulary. Materials should help them progressively and purposefully connect and incorporate learning in history, science, and other subject areas.

Joe states, "I use old workbooks to make laminated games for children to practice phonics skills. They are sequenced by my phonics lessons. For example, children working with short vowel patterns can play several games that reinforce these skills. They have catchy names, but I identify them with a number code for easy sequencing. I also have open-ended game boards with laminated vocabulary cards, color-coded to a group of decodable books. Children collect counters for every word they read correctly as they move along the game board. The winner is the one with the most counters. I teach them to verify correctness, using phonics strategies. It's fun and definitely supports my reading program."

Word families. Building a recognition of word families (words that have the same rime, e.g., *-at* words—*bat, mat, rat*) is an early part of phonemic awareness, so it makes sense to include word families and word patterns in early reading instruction (see "Onsets/Rimes" in Appendix A). It has been estimated that nearly 500 words can be derived from 37 rimes (Stahl 1992). By using a limited set of letters to build as many familiar words as possible, students can gain fluency quickly and can be shown that every letter matters. Instruction in word families takes place after a child knows the sound of the letters in the pattern.

High-frequency words. It helps young elementary school students to know that not all English words are amenable to decoding. Knowledge of a number of high-frequency words, such as *the, of, are,* and *you,* is firmly established in kindergarten and first grade through direct instruction, along with shared reading and writing experiences. The use of a word wall is a good technique to associate these words with something meaningful in a variety of learning modes and practice with the words (Cunningham and Allington 1994). Each week the teacher adds several words written on various colored paper to an alphabetized bulletin board, which remains all year as a reading resource. Short, interesting daily practice helps students become familiar with the words.

Joe says, "I teach high-frequency sight words in a whole-group lesson. With the word of I display several pictures on chart paper labeled 'a piece of pie' and 'a slice of cheese.' The students dictate others to add. We chant them, and when those words have been firmly associated, I add for to the phrase—'a piece of pie for Thomas.' I keep these *charts posted as resources, but I also add the words to the word wall."*

Syntactic and semantic awareness. Syntactic awareness is the reader's knowledge of how language works because of its structure and grammar. Young children's attempts to understand spoken language sometimes result in unique grammar—"I roded to the store"—but this usage demonstrates children selectively using information provided in their environment (Ferreiro and Teberosky 1982). Instead of making an issue of errors, adults model proper usage and instill correct syntax. Another way to show young children correct syntax in a nonthreatening way is by reading aloud. Through shared and guided reading and writing experiences, accompanied by instruction and practice, children in early elementary school are taught grammar, punctuation, and sentence and story structure.

Joe relates, "My students write miniplays that they perform. One author/director became upset when his classmates did not say his exact words. I taught a short lesson about the use of quotation marks. Now their plays include quotation marks around critical statements. While I do not usually teach kindergartners this concept, it makes sense in the context of their plays."

Contextual cues such as syntax (order of words), semantics (context and meaning), illustrations, or other strategies may serve to verify words and make sense of text that readers have decoded.

Timmy is engrossed in a new book about circus cats. Joe listens as Timmy attempts to decode the sentence, "The tigers try to jump through fire." He pauses at the word try. Timmy knows that y has several sounds, including /e/ and /i/. He reads the sentence first with the /e/ sound (tree). Then he reads it using the other y sound. Timmy's second attempt makes more sense, and he proceeds with his reading. Joe notes on his observation sheet that Timmy actively uses phonics and the semantic cuing strategy to decode.

Component 3. Reading, Comprehension, and Fluency

The elements of this strand include reading to, with, and by children; comprehension strategies; and fluency. A number of the classroom activities presented below may appropriately take place in preschool through grade one.

Reading to, with, and by children. "The single most important activity for building the knowledge and skills eventually required for reading appears to be reading aloud to children. Both the sheer amount of and choice of reading materials seem to make a difference. The greatest progress occurs when the vocabulary and syntax of the materials are slightly above the child's own level of linguistic maturity" (Adams 1990, p. 46). Enjoying books and telling stories are more than simply saying the words—the adult and child thrill together over the plot or characters; they share similarities between the story and the child's life; their curiosity is stimulated and vocabulary is developed; they improve their understanding of concepts about print and other reading skills; and they savor a love of reading.

Young children have favorite stories that they want read over and over, an activity that helps them understand that words have constancy. Just as the home reading or storytelling experience is time for a warm snuggle with a loved one, so may the classroom reading time be a one-to-one or small-group sharing of a book (Trelease 1989). Adults should read to children from a wide variety of print sources several times each day. This is especially necessary for children with few experiences with print. Read-alouds show children the purposes of reading and writing.

Rosa helps children understand the many purposes and uses for writing. One morning Eduardo bursts into tears after his mother leaves. Rosa calms him as they rock in a chair. She asks, "Would you like to write Mamma a note? What do you want to tell her?" Eduardo dictates, "Yo lloro cuando tú no estas conmigo. Yo lloro porque no tengo tiempo para comer. Quiero ver las caricaturas." (I cry when you don't stay with me. I cry because I don't have time to eat. I want to watch cartoons.) He puts *the note in his cubby and begins to play with a toy truck. Rosa has shown him a way to use writing to express his frustration.*

Joe creates a prop box with paper or flannel board figures and other items for students to recreate a previously read story. As students play with the props, they recall story sequence and use academic language. Joe notes the increasing use of book language in their own writing.

Children understand new words and concepts when they are presented in meaningful contexts through daily read-aloud activities. In choosing read-aloud materials, teachers or family members should select stories or expository text that is slightly above the reading level of the children. Sensitive teachers discuss any words that may be new and link them to children's prior experiences. Reading aloud enables children to hear "academic language" or book language, which is more structured and formal than oral language (Schickedanz 1999). Research supports the notion that children who are read to and then discuss the reading comprehend at higher levels (Palincsar, Brown, and Campione 1993). Reading aloud demonstrates correct syntax for young children who are trying to make sense of their language or who are learning English.

The California Reading Task Force recommended that each classroom library have a minimum of 1,500 books. The *English–Language Arts Content Standards* recommends that students read, by grade four, one-half million words annually. In grade one, students begin to make progress toward this goal. Print materials should be available in English and in other languages represented in the classroom. For languages for which few books are available, some schools use parent or community volunteers to translate classroom printed material, they borrow materials from other districts, or they locate publishers that specialize in non-English materials. Some book selection criteria for young children are that books be interesting with, perhaps, rhythmic language; contain experiences that connect to the children's lives; are of sturdy construction; are of interest for the reader; and contain unbiased text and illustrations.

Teachers model tasks that proficient readers and writers perform, call students' attention to this process, and gradually withdraw some support to encourage students to become proficient and independent (Depree and Iversen 1994). Teachers vary levels of support to individuals or groups of children according to their competencies and understandings. In a continuum from the student's most to least dependence on the teacher, the following approaches for reading may be used:

- *Language experience.* The child creates and dictates a story or text in his or her own language, using knowledge or prior experience. The teacher may provide a prior experience to which children will relate, such as observations of a class pet or a field trip (see page 59).
- *Reading to children.* The teacher decodes all the text and models much of the comprehension strategies while children are exposed to book language and story structure.
- *Direct instruction in decoding.* For students who have begun phonics instruction, the teacher briefly reminds them of previously taught decoding lessons in the context of the text (see "Decoding and Word Recognition," which appears previously in this chapter).
- *Shared reading.* During the first reading the teacher decodes and supports growth in language structures and vocabulary. In re-readings the decoding task is gradually passed to the children.
- *Guided reading.* The teacher introduces the text by providing the necessary support, but children read the text (which is at their instructional level or above[7]) in small, flexible, ability-based groups.
- *Practice.* The teacher provides decodable materials that are read by students using the skills they have learned thus far. Students apply their decoding and word recognition strategies in connected reading activities.

---

[7] Text is read at the independent level when a student is able to read it with 95 to 100 percent accuracy. It is at the instructional level when it is read at 90 to 94 percent accuracy. It is at the frustration level when read at 0 to 89 percent accuracy. When children attempt to read material at their frustration level, they are unable to decode or make sense of their reading.

- *Independent reading.* The teacher provides opportunities for children to choose texts at their independent reading level and suggests possible extension activities. The children read on their own, practicing newly acquired competencies.

The next section presents a discussion of the last four approaches in the continuum.

Shared reading. Shared reading is a step between reading *to* children and independent reading *by* children in a relaxed, secure situation in which risk taking, mistakes, and approximations are seen as a normal part of learning. Some children may relax and read more fluently when reading with an adult or older student than with a large group. Shared reading may be done with the whole class, small groups, or individuals. Teachers begin shared reading activities when children understand at least the initial concepts about print and a few sound/symbol relationships, usually in preschool or kindergarten. Predictable books with common refrains; books with rhyme, rhythm, or chants; or other interesting text help to emphasize particular reading elements or class themes. Shared reading is especially valuable for children who speak English as a second language (Johnson and Louis 1990; Routman 1991).

Following a shared reading of Dance Away *(Shannon 1982), Rosa encourages children to dance like the rabbit in the story. After re-reading several times, the children spontaneously repeat common phrases as Rosa points to them in the Big Book. When she sees Boon pretend reading the story aloud, she knows he is beginning to be a reader.*

Shared reading may start with a picture-walk discussion of the illustrations. The teacher reads the story aloud, sweeping a finger along under each word. Students may be asked to predict an event in the story; supply a predictable word or phrase; illustrate the text; create a new ending; or act out the story. Elementary students may copy words and sentences; read to family members; or put pictures, words, or sentences in order in a pocket chart. Vocabulary words from shared reading texts may be laminated and available in the game center (Depree and Iversen 1994; Routman 1991).

Guided reading. *Guided reading* is an instructional technique in which a small number of students, grouped by their instructional level (see fn. 7), read a text. Texts include decodable books, predictable books, or leveled books (*leveled books* are organized and sequenced by characteristics related to features of print, format, and meaning instead of by reading formulas or vocabulary). The teacher guides the students through the text, not by reading it, but by previewing and helping them predict what they might expect (Clay 1991). Some potentially difficult vocabulary is previewed in this walk-through; for example, "This story is about a cat so large, it is called immense." The teacher reminds the class of strategies they have previously been taught: "Some words in today's story will rhyme with *sing*, a word we wrote yesterday in our making-words activity." Then the children, each with his or her own copy of the text, read quietly to the end of the page. When all have finished, they turn the page together. The teacher, hearing their efforts, knows where to assist and may direct them to their known list of reading strategies, which is periodically updated as students are taught new strategies (see Figure 5-3, "Reading Strategies").

Follow-up activities to extend the text's meaning are based on the reader's level of independence. Beginning readers might re-read to a friend or role-play the text. More experienced readers might create a group mural with written strips to describe the characters. Fluent readers might read books on the same topic or make a group Venn diagram comparing the text with something previously read.

Practice. Children practice reading new decodable text to become fluent, accurate readers. Teachers preview texts prior to their use to determine that the content is not beyond the skills the children have learned thus far. Even preschoolers, who may practice with wordless books, reinforce new vocabulary and story elements. Teachers also provide opportunities for children to use their new skills in other subject areas.

Reading Strategies

Strategies such as those shown below help children to read and understand the content of material they are learning to read. This list is not limited to strategies based on the alphabetic principle, although such strategies are recognized as critical. Additional strategies address comprehension and vocabulary.

- Search your mental bank for similar letter patterns and the sounds associated with them.
- Chunk the word by putting together letters that usually go together in the words you know.
- Look for little words within bigger words (e.g., *be* or *in* in the word *begin*).
- Cross-reference an unknown word with a similar one already decoded.
- Look at the shape and/or length of a word to get hints.
- Re-read the sentence to cross-check possible pronunciation with meaning. If meaning confirms pronunciation, continue reading. If not, try again!
- Track one-to-one with your finger.
- Rerun a sentence one or more times to the place of the problem word.
- Read in phrases.
- Compare and contrast what you read with what you already know.
- Call up relevant background knowledge.
- Self-monitor and self-correct.
- Predict. What will be learned and what will happen?
- Use picture clues to get meaning from the text.
- Make mental pictures or "see it in your mind."
- Determine the most important ideas and events and see how they are related.
- Draw conclusions and inferences based on what you read.
- Summarize what has been read.
- Skip an unknown word and then, using the context, go back and figure out the word.
- Ask for help.

Figure 5-3

After reading books about an animal character during shared and guided reading, K/1 students write a sentence about the character to post on the book wall about animals. They add a picture of the character they have painted and cut out. Joe adds some sentences using familiar sight words and decodable vocabulary. Students practice their reading skills as they "read the room."

Independent reading. Independent reading occurs when children, on their own, read material that does not require the assistance of an adult or a more competent peer. For beginning readers these books may be the ones that were previously read during shared and guided reading. Children should be taught how to choose books at their appropriate level, neither too hard nor too easy. Independent reading time is scheduled for 10 to 20 minutes per day, depending on the grade level and reading ability. For young children this time might not be silent, solitary, or long; but it should be scheduled each day, even for preschoolers, so that children develop the reading habit and learn to see themselves as readers. Independent reading activities are

BEST COPY AVAILABLE

more successful when teachers provide abundant reading materials and time to talk about the books (Cunningham and Allington 1994).

"We spend 20 minutes reading and 10 minutes discussing during Sustained Silent Reading (SSR)," says Joe. "The children keep a record in their journal of books they read and their reactions. On Fridays we tell what we like about particular books. These shared 'book reviews' have heightened children's interest for particular books."

It is important that young children have a wide variety of texts for recreational and content-area reading. Teachers offer families various book lists, including selections representing diversity. They may assist the family by scheduling weekly library visits for children or by opening the school/center library in the evening.

Students should have time to check out library books and have daily independent reading homework. Parents may sign a weekly log stating the number of minutes or pages read to or by the child at home. Allowing children and families to check out school library books is a helpful policy, especially when families have few reading materials at home. Schools may prepare a video for parents that highlights the importance of daily reading and may include tips on how best to read and do inexpensive follow-up activities with young children.

When a balanced and comprehensive language arts program is offered, children can, with interest, joyfully participate in recreational and content reading. (See *Recommended Readings in Literature* 1996; *Read to Me* 1992; *Recommended Readings in Spanish Literature* 1991.[8])

Comprehension strategies. Comprehension involves the reader's understanding and interpreting print and his or her knowledge of strategies to make meaning from what is read (see Figure 5-3, "Reading Strategies"). A reader's prior knowledge along with the cultural and social background are factors in comprehension. Comprehension includes the reader's literal understanding of the actual words in addition to the reader's construction of meaning based on an interpretation of the text. A limited vocabulary or reading fluency may limit a student's comprehension (see p. 44 for information on vocabulary). Students who struggle with decoding can lose track of meaning. Furthermore, if students are unfamiliar with the topic, concepts, or other information supplied in the text, comprehension will also suffer (*Teaching Reading* 1996). The *Reading/Language Arts Framework* offers numerous suggestions for building comprehension.

Rosa's students contribute to a bulletin board display, "I Can Read." They each bring in environmental print (cereal boxes, advertisements, or examples from their neighborhood) that they can read. The material is discussed and posted with the child's name. The children like to read their own words and learn the words the other children have shared.

Even before children are competent readers, they are able orally to enhance comprehension by their use of strategies like predicting, recalling, summarizing, and comparing. Studies show that preschoolers who participate in cognitively challenging talk—talk about past experiences, future events, or materials read to them—improve their ability to comprehend stories even a year later (Beals, DeTemple, and Dickinson 1994).

Research studies show that the most powerful activities for developing comprehension are reading—independently or in pairs or groups—and being read aloud to (Shany and Biemiller 1995; Stanovich 1993; *Preventing Reading Difficulties* 1998). Research studies also show that students do better when teachers model comprehension strategies overtly, provide supported practice at the appropriate level of difficulty (scaffolding), engage students in discussion and questioning, guide students through structured opportunities to practice new skills (Rosenshine and Meister 1994), and instruct about the syntax and rhetorical structures of written language (*Preventing Reading Difficulties* 1998). Teachers strengthen comprehension by providing activities that help children think while they read.[9] To improve comprehension, teachers use many techniques, including the following:

---

[8] It is anticipated that several of these resources will be revised in 1999-2000.

- Ensure that the text is within each student's instructional level (see fn. 7).
- Connect students' prior knowledge to the content of the text.
- Teach necessary vocabulary before the text is read.
- Provide a book walk—especially for expository texts—to explain the structure of the text. (In a book walk the teacher leads the students on a review of the text prior to its being read.)
- Have students generate questions, summarize, predict, and monitor their understanding (Dole, Duffy, Roehler, and Pearson 1991; Palincsar, Brown, and Campione 1993).
- Model aloud for students the ways in which the teacher makes sense of text.
- Encourage visualization (children create a mental image of something from the text) (Paivio 1969; Bell 1991).
- Have students write to clarify their thoughts.
- Practice and apply comprehension skills with different genres and content areas.

Before presenting a lesson on the -ice word family (rime), Joe serves his students chicken soup with rice. The children's familiarity with rice causes meaningful conversation and results in a positive shared experience. When Joe reads Chicken Soup with Rice *(Sendak 1976) and leads the making-words activity, the children are receptive to the topic and strongly associate the vocabulary with the experience. Their short- and long-term memory of these words is impressive.*

Fluency. Fluency is the effortless, accurate, and immediate recognition of words while reading. It involves both word recognition and speed. Students are expected to read fluently by the end of the third grade (*Reading/Language Arts Framework* 1999). By reading most words quickly and automatically, readers can attend to meaning. To read fluently, students need to decode words efficiently, pronounce words correctly, self-correct while reading, focus on meaning, have sufficient background knowledge about the topic, have knowledge about the different ways in which reading materials are organized as text structures and genres (e.g., stories compared with informational text), and use expression and phrasing.

Listening to kindergartners and first graders read aloud is a good indicator of their fluency as well as of other reading skills. The National Assessment of Educational Progress (NAEP) in its *Integrated Reading Performance Record* (1995) presented a four-point scale for determining fluency (see the NAEP scale in Figure 5-4) and reported its findings on fourth grade students. The NAEP study concluded that:

- Oral reading fluency demonstrated a significant relationship with reading comprehension;
- Fluent reading was related to students being involved with other literacy activities, such as reading at home, using the school and public library, and reading daily; and
- Students were more fluent when they had read the selection at least two previous times.

In springtime Joe's students meet on the lawn to share poems from their choral reading books, which he compiled using jump rope rhymes, simple songs, and poems from basal readers, anthologies, and cultural and historical favorites. Because the children have read the selections many times and have copied favorite poems in their writing journals, they are familiar enough with the cadence and groupings of words to be able to read fluently and joyfully.

Component 4. Writing, Spelling, Penmanship, and Grammar

As young children make connections between spoken and written language, they extend their understanding to include symbolic forms used to capture speech. Reading and writing are closely related and mutually reinforcing. Through writing, students use language, think, learn, express themselves, and communicate information and ideas.

---

[9] See Routman 1991 and Cunningham and Allington 1994 for information on structured dialogues and reciprocal teaching, graphic organizers, story maps, question-and-answer relationships, KWL (Know/Want to know/Learned), transfer lessons, illustrations, and dramatizations.

NAEP's Integrated Reading Performance Record Oral Reading Fluency Scale

Level 4	Reads primarily in larger, meaningful phrase groups. Although some regressions, repetitions, and deviations from text may be present, these do not appear to detract from the overall structure of the story. Preservation of the author's syntax is consistent. Some or most of the story is read with expressive interpretation.
Level 3	Reads primarily in three- or four-word phrase groups. Some smaller groupings may be present. However, the majority of phrasing seems appropriate and preserves the syntax of the author. Little or no expressive interpretation is present.
Level 2	Reads primarily in two-word phrases with some three- or four-word groupings. Some word-by-word reading may be present. Word groupings may seem awkward and unrelated to larger context of sentence or passage.
Level 1	Reads primarily word-by-word. Occasional two-word or three-word phrases may occur—but these are infrequent and/or they do not preserve meaningful syntax.

Source: Gay S. Pinnel, and others. *Listening to Children Read Aloud.* Washington, D.C.: U.S. Department of Education, Office of Educational Research and Improvement, 1995, p.15. Reprinted by permission of the U.S. Department of Education, National Center for Education Statistics.

Figure 5-4

When families and teachers encourage literacy, young children freely engage in writing activities that emerge from their play and socialization experiences. Typically, their experiences include seeing adults model various uses for writing, using a variety of writing tools, writing daily, and sharing their writing with peers. Children who have had these varied experiences begin school with a great deal of knowledge about written language (Bissex 1980; Hiebert 1981; Clay 1987). Especially helpful for children with few writing experiences, teachers model the uses for writing and provide many opportunities to write each day. The standards for kindergarten and grade one (K/1) address writing, spelling, penmanship, and grammar.

Writing. Although children's development in writing is neither lockstep nor consistent, there generally are indications that as children grow older, their form of writing becomes increasingly complex. Writing generally develops along a continuum, but children who write frequently may skip certain stages, while infrequent writers may regress in writing proficiency (*Preventing Reading Difficulties* 1998). Preschoolers often use scribbles and symbols to represent words and letters even before they can read. "Stages of Writing Development" in Appendix B shows an example of a continuum of development. When young children are given time each day to write and their attempts are acknowledged, they will learn to value writing and be willing to take risks.

Preschoolers' and K/1 students' use of temporary, or invented, spelling (spelling words as they sound) to represent words and thoughts occurs before and as those children learn decoding strategies. Temporary spelling hastens refinement of phonemic awareness, accelerates children's acquisition of conventional spelling taught in first grade, and enables teachers to assess students' knowledge of concepts about print and sound-symbol correspondence (*Preventing Reading Difficulties* 1998).

Young children's interest in expressing themselves in print is a strong motivator for learning still

BEST COPY AVAILABLE

more letters, sounds, and words. After storybooks with predictable patterns have been read, children may write class books with similar patterns. Bill Martin Jr.'s *Brown Bear, Brown Bear, What Do You See?* (1983) probably holds the record for the most number of class rewrites in America. The pattern is simple, the children are delighted to think of different animals and objects they can add, and the story shows them a purpose for reading and writing.

As early primary students perceive how writing is used in the real world, they produce writing for a wide range of purposes. Preschoolers and kindergartners may label the room, write signs, and use writing in social and other authentic ways. First graders begin to use writing in more complex ways, including the writing of narratives and descriptions. As they develop writing skills and see adults model the writing process, they begin to question whether their efforts meet their intended purpose, a procedure that may result in revisions to improve the final product.

Students learn a process through which they organize, compose, revise, and finalize their writing (see "Overview of Writing as a Process" in Appendix B). Use of certain parts of this process depends on the purpose for writing (e.g., a kindergartner's handmade sign in the block area may not have to be edited for correct spelling, but the invitation for families to attend a class chorale should be revised for correctness).

Joe models the editing process through minilessons for his first graders (Cunningham and Allington 1994). Verbalizing his thoughts as he writes on chart paper, he decides on a topic and writes his name and the title. He sounds out words as he writes, occasionally misspelling a word and omitting some punctuation, a few capital letters, and an important word. Then he says it's ready for "fixing" (to see if it says what he wanted). As he rereads, he fills in the missing word and changes a few capitals, but does not fix everything. "It makes sense, but it's not perfect. What do I need to do if I want to put it on the writers' bulletin board or make it into a class book?" The children respond, "Choose a friend to help edit it." He chooses Dao, who uses a marker to edit with help from the class. Joe points to the "Editing Checklist" posted on chart paper in the class and together the class reads each item that needs to be checked (the date shows when Joe taught the skill).

Editing Checklist

1. Name and date (9/6)
2. Title in center (9/17)
3. Endings .?! (9/30)
4. Possible misspelled words (10/15)
5. Sentences make sense (10/17)
6. Capitals in right place (11/4)
7. Stays on topic (12/6)

Dao inserts the date under Joe's name and marks a 1 at the bottom of the page. Since the second item is there, she writes a 2 at the bottom. She continues to edit, making appropriate correction marks and indicating checklist items she has reviewed. Dao circles possible misspellings so that the writer can verify them. Joe and the class discuss useful classroom resources for correcting the edits. Joe explains that as their independent use of editing gets better on items one through seven, he will add other editing strategies.

Teachers help children realize that they must think *as* they read and that the essence of writing is thinking. Writing instruction should focus on having children organize their thoughts, compose their work, and edit—all with the purpose of conveying meaning. Seven instructional techniques to develop writing skills are presented next.

1. *Language experience approach.* The language experience approach (LEA) is an instructional strategy for both reading and writing (see p. 53). LEA emphasizes the importance of relating oral language to written language and of relating reading to writing. In LEA a student dictates a sentence or paragraph about a specific experience to the teacher, who writes it for the student. The teacher helps young writers use their knowledge and prior experience to construct meaning from the printed word.

When the teacher is doing LEA with one child, it is critical that the teacher write the exact words of the beginning writer/reader, even if the grammar or construction is incorrect (Cunningham and Allington 1994). To do otherwise confuses the beginning writer. The important point is that the teacher's writing show the connection of the child's language to print. Dictation may be written on chart paper or on a self-stick note affixed to a child's creative project.

Each month Rosa asks children to draw a special picture of something they did at preschool. She and her assistant write on each picture what the child says. They read it back to the child and save it for later publishing—a chronological look at the child's preschool year to be presented to the family at preschool "graduation." The sequence of drawings and dictation provides Rosa with information on changes over time in oral language, storyline development, drawing ability, fine-muscle control, and concept development.

2. *Shared writing.* The shared-writing technique is one in which the children and the teacher "share" the construction of the writing. The teacher serves as the scribe while the students help to compose the text, read, and reread it. Because the children as a group have more than one level of English usage, the teacher will change any nonstandard English into conventional written language (Cunningham and Allington 1994). Shared writing may include each child contributing a line with his or her name written beside it; retelling a story, an event, or the day's activities; or listing items. When the writing is completed and has been read and re-read, it may be laminated and enjoyed as a part of the classroom literacy materials.

   Joe's students dictate sentences that he rewords into standard English about a shared experience. He asks, "How do I start that word?" The children tell him to use a capital letter, and he continues to read each word as he writes it. The students tell him letters for simple words. He asks how to end a sentence. Some respond, "A period"; others say, "A question mark." Joe re-reads the sentence and asks, "Is the sentence telling you or asking you?" There is a chorus of "Asking!" Joe responds with, "So what do I write?" The children answer, "Question mark!" They are functionally applying what they know about phonics and punctuation. Follow-up activities include keyboarding the sentences for an illustrated book and entering words in their individualized spelling dictionaries.

3. *Guided writing.* In guided writing for young children, a teacher offers guidance and extends students' thinking about the process of composing text with the whole class or in small, ability-based groups. This strategy is used after specific instruction and after students have had many opportunities to see writing demonstrated aloud and in shared contexts. In guided writing the student actually holds the pencil and does the writing. The teacher helps students discover what they want to say and how to say it meaningfully with coherence, interest, style, form, and individual voice (Cunningham and Allington 1994). Completed charts or other work is displayed so that children can revisit the materials, use them in other writing activities, add words to their personal dictionaries, copy the words onto paper to take home, or read to each other.

4. *Interactive writing.* This is a type of guided writing technique that emphasizes how written language works, concepts of print and sound-letter relationships (see "Interactive Writing" in Appendix B). This technique is particularly helpful for English learners as well as for students who have had few opportunities to interact with and notice the details of print. Research studies indicate the effectiveness of including interactive writing

as part of a balanced, comprehensive reading program (Pinnell and McCarrier 1994).

5. *Independent writing.* Here, children write on their own. Very young children may only approximate writing, and many words may represent temporary spelling; but even preschoolers should have opportunities each day to write independently at an attractively equipped center. Teachers of kindergartners and first graders model and help build skills as they discuss the process, techniques, and expected results. Students write daily, before or after reading, and often discuss what they have written. They may write in journals, which teachers review for progress and for lesson planning. Young children's journals are useful in showing the children's emerging concepts about print and letter/symbol knowledge. All early writers need resources nearby to help with letter forms, spelling, and/or format. A chart of photographs and printed names of classmates at the writing center can be a helpful resource. Research shows that the creative process varies as some children write first and then illustrate, while others illustrate first—triggering their writing (DuCharme 1996).

   Dialogue journals are written conversations over time between the student and the teacher. They are especially effective for English language learners in that they allow students a risk-free environment in which to practice language without formal evaluation. Other journals include literature logs, response journals, scientific notebooks, and mathematics journals to integrate writing across the curriculum. Other examples of independent writing activities include participating in a letter-writing/post office center, developing creative writing journals, constructing sentence-and-pattern frames, and participating in a writer's workshop, which is a structured time for teaching and learning about writing (see Pinnell and Fountas 1998, p. 208).

6. *Expository writing.* Children write factual pieces on a specific topic. In a learning log, for example, kindergartners may be asked to draw a picture and write about some specific thing they learned that day. Older students can be asked to write their understanding of the emergence of frogs from tadpoles, for example, and their writing becomes part of a class bulletin board on life cycles.

7. *Writing across the curriculum.* In *Democracy and Education* (1966) John Dewey states that literacy becomes purposeful and takes on additional importance when it is integrated with other subjects. Students may be asked to write their analysis and solution of a mathematics problem or their observations about a science experiment.

Spelling. Spelling improves as elementary school students read, study word families and patterns, do mini-lessons on making words, and take part in discussions in shared and guided reading and writing activities about spelling patterns and sound-symbol correspondence. Research studies show that the study of phonics improves spelling ability (Chall 1995). By reviewing a young child's temporary spelling, teachers can draw many conclusions about that child's print concepts and knowledge about sound-symbol correspondence. (See p. 58 for information on temporary spelling.)

Kindergartner Xang draws his baby brother and writes "MI BRZRCMHMFRMHZPTA" (My brother came home from hospital). During sharing time Xang reads his story and shows the picture. Joe says to the children, "Look at all the sounds Xang is spelling." Joe writes MI on the chalkboard. "We can read Xang's writing because he is using letters to match sounds." Joe copies BRZR on the chalkboard. "What does this say?" The children answer, "Brother!" Joe responds, "You are such good readers!" Xang beams. "But Brother has no z in it," says a first grader. Joe replies, "You are older and hear the other sounds in the word. Xang is doing fine to hear so many sounds. We will help him hear others soon."

As first graders progress with understanding phonemic awareness, teachers link the children's phonics instruction to spelling. Research studies demonstrate that combining ample early support of temporary (invented) spelling with systematic, explicit formal instruction results in more rapid growth in both correct spelling and word recognition than does either approach alone (Shefelbine 1995). The use of word families (rimes) helps students see patterns in correct spelling. For kindergartners and first graders, the following activities are recommended (Cunningham and Allington 1994):

- *Rhyming word charts.* These charts are made after students hear a rhyming book or story. The teacher writes a word on a chart, and the children contribute rhyming words underneath. Pictures may help children associate the print so that they remember the words. The spelling is chanted and referred to periodically as the charts become literacy resources (see "Onsets/Rimes" for word families in Appendix A).
- *Using words you know.* Children are taught strategies to help them know and apply the common spelling patterns that are found in many one-syllable words (e.g., recognizing a short known word within a longer unknown word [*am* in *tram*]).
- *Making words.* This active lesson that teaches spelling patterns appears in an earlier vignette on page 50. It should be a short part of every day's reading instruction in the latter part of kindergarten and all of first grade.

Other techniques to help children learn to spell include using individual dictionaries in which students enter words that are important to them, practice them, and are tested on them at week's end; supplying print resources in multiple locations of the room so that children immediately see correct spelling; using various senses to practice spelling (e.g., writing words in sand, decorating the letters in the words, spelling with magnetic letters or alphabet cereal, and singing or chanting the spelling words); incorporating a few high-frequency words into each week's spelling list; and practicing words on the computer or in board games.

Penmanship. At this early stage of writing, it is important to support children's disposition to write rather than to require children to print perfectly formed letters or correctly spelled words before they are able. Instruction in correct formation of letters can occur through teacher modeling, exposure to print, and exercises to gain fine motor control (Sulzby, Teale, and Kamberelis 1989). The *English–Language Arts Content Standards for California Public Schools* (1998) calls for kindergarten children to attend to form and spatial alignment. Although capable of attending, not all children in kindergarten may be able to exert the fine muscle control to completely accomplish this skill. Nevertheless, effective teachers observe, offer particular activities to strengthen muscles (such as kneading clay), provide tools to make writing easier (such as larger pencils or pencil grips), and supply paper (from no lines to numerous lines) to match the development of children's skills during the year.

Grammar. Early primary students begin to learn grammar by means of teacher modeling, guided and shared reading and writing activities, immersion with stories and books, and mini-lessons taught in the context of discussion or for editing purposes. Classroom discussions about "What sounds right?" for particular sentences cause students' attention to be drawn to correct grammar usage. In this way students learn about singular and plural nouns and contractions, and the grammatical conventions included in the first grade language arts content standards. Once students have fluency and conceptual understanding, they can benefit from analysis of syntax. Formal grammar instruction (defining and labeling parts of speech, for example) is better understood by students usually older than those in the first grade (Routman 1991). The *English–Language Arts Content Standards* lists grammar goals for kindergarten and grade one.

Assessing Young Children's Literacy

Through assessment and diagnosis teachers collect and use information from a variety of sources, including parents, on students' achievement of standards and their strengths and needs. Teachers use this information to plan classroom instruction and make decisions for intervention, as early as possible and no later than mid-first grade. Parents are periodically informed about assessments. Early primary grade teachers need a broad repertoire of instruments and methods for assessing young children, in addition to some informal screening tools and a systematic process for determining children's early reading progress (Teale 1990).

The *Reading/Language Arts Framework* recognizes that different types of assessment tools are used for different purposes. The broad type of assessments most crucial to achieving standards are the following:

- *Entry-level assessment.* Does each student have prerequisite skills and knowledge for the grade level? Does any child already know some of the material to be taught?
- *Monitoring of progress.* Is each student making progress to achieve grade-level standards? Is reteaching needed? What particular skills or concepts need emphasis in upcoming units or lessons?
- *Summative assessment.* Has each child achieved particular standards?

Conducting these three types of assessments gives teachers critical information for making instructional decisions. Other types of assessments may be necessary for gathering diagnostic information or for determining whether students are qualified for special programs. There are also district and statewide assessments that may be required at the early primary level, the results of which can also contribute to instruction.

Standardized testing. Standardized testing for *young children* has been challenged during the last decade because of its limitations, the lack of validity or reliability of particular tests for use with this age group, and young children's reactions to formal test taking. Contemporary research studies demonstrate that young children's initial efforts to read and write reflect a wide range of experiences with books and print. Research also demonstrates that children acquire the skill of reading in different ways, exhibiting different rates of learning and different styles and strategies for dealing with text. Standardized tests, by contrast, imply a narrower definition of early reading, accentuating knowledge of letters and words to the exclusion of other indicators of literacy, such as children's interest in books and their ability to listen to stories or to make sense of meaningful words[10] (*Testing of Young Children* 1988; "Educating Young Children" 1989; Shepard 1994; Darling-Hammond and Falk 1997).

Other types of assessment tools. Although there are limitations associated with using standardized tests, a number of helpful methods are available for identifying children's progress in the development of literacy. Assessment systems for young children should be flexible enough to allow for a variety of legitimate responses and take into account the varied opportunities for learning that confront children from different backgrounds. This flexibility can extend to modifying the settings or time allowed for assessment.

The *Reading/Language Arts Framework* offers examples of specific assessments and when they should be conducted. Other useful assessment tools (*Teaching Reading* 1996, p. 19) include the following:

- Teacher observations (see Appendix C);
- Screening assessments for phonemic awareness (see Appendix C), language proficiency, concepts about print, names of alphabet letters, and writing;
- Checklists for concepts about print, phonemic awareness, letter knowledge and phonics, and attitudes toward reading and writing;
- Running records for assessing reading accuracy, analyzing student errors, and establishing reading level (see Appendix C);
- Scoring guides for writing (including benchmarks indicating competence);
- Records of amount of reading or writing accomplished in terms of pages, minutes, words, stories, books, and so forth;

---

[10] Educators are advised to not use readiness tests for high-stakes decisions such as enrollment or placement. (See Meisels 1999 for more information or the Web site for the Center for the Improvement of Early Reading Achievement found at <www.ciera.org>.)

- Individual and group-administered tests, including unit tests that accompany adopted reading programs and quick assessments;
- Comprehensive assessments, such as "The Learning Record" (see Appendix C); and
- Collections of student work rated using rubrics with benchmarks that describe what is quality work, average, and below expectations.

The teacher's responsibility is to collect and evaluate evidence of children's learning and plan subsequent learning experiences. It may be necessary to disaggregate some data to determine whether instruction has been effective for all groups of children.[11] This documentation will help educators, across grade levels, to look more closely at the thought, language, and skill children bring to their early attempts to read. Documentation also builds on data collected at intervals over the years and across literacy contexts. Preschools and schools should set up procedures to share information on assessment and intervention for incoming elementary school students (*Continuity for Young Children* 1997).

Teacher observations. Observation is central to a teacher's evaluation of a child's learning, but information must be recorded in a systematic way. Certain instructional contexts offer better opportunities for observation, such as story time, free-reading time, small-group time, or choice time. By observing a different group of two or three children each day in these contexts, teachers have a wealth of information available. Using a standard observation form with room for narrative helps the classroom teacher judge children's growth and development in literacy (see "Sample Observation Recording Form" in Appendix C). Some teachers carry a pad of self-stick notes and a pen or a clipboard with sheets of labels so that they are always prepared to jot down an observation.

Screening assessments. Screening or performance samples provide tangible evidence of children's work and learning. Documentation of children's speech and listening abilities, understanding of concepts of print, spelling, letter recognition, sound-symbol correspondence, word recognition, reading fluency, listening and reading comprehension, and writing development shows evidence of children's development and can be especially helpful to parents in understanding the complexity of early reading. Some software is capable of recording a child's reading of an on-screen story and entering the teacher's anecdotal notes. It is critical that kindergarten teachers informally assess their students midyear on phonemic awareness (see "A Test for Assessing Phonemic Awareness in Young Children" in Appendix C). It is also critical that kindergarten teachers observe or assess by midyear to determine that students are achieving phonemic awareness; if the students are not doing so, teachers provide systematic intervention immediately.

Running record. A running record is a type of performance sample that provides especially rich information about a student's actual reading behavior—pauses, misreadings, invented text, repetitions, attempts at sounding out words, self-corrections, and requests for help. Because the teacher uses a piece of text rather than test items, the process is more natural, provides immediate feedback, and can demonstrate a child's full repertoire of reading strategies. "Monitoring and Evaluating Children's Reading" in Appendix C includes a detailed description of the procedure and scoring for the running record.

Developmental checklists. Developmental checklists are profiles that record each student's growth over time in a range of skill and developmental areas. They are required assessment tools for state-funded child development programs. Examples are provided in the California Department of Education Program Advisory "Appropriate Assessment Practices for Young Children" (1992) from the Child Development Division.

Writing samples. Writing samples provide information on children's knowledge and skills in terms of writing, concepts about print, and sound-symbol relationships. However, writing samples may not give a complete picture of children's spelling abilities; some children write only those words they know how to spell, or they look up the spellings. Spelling researchers suggest that teachers use both writing samples and a developmental spelling test to determine young children's spelling levels and growth in spelling abilities (Gentry and Gillet 1993 has examples of both). The use of writing samples and rubrics in many California schools has shown that analysis of student work by grade-level teams can be a very valid assessment tool. By agreeing ahead of time on a rubric linked to grade-level standards, teachers can scrutinize children's work in terms of invented or conventional spelling, word and sentence dictation, narrative and expository writing, writing in response to literature, and taped oral reading.

---

[11] *Disaggregation* means to break apart or separate the assessment data to show results for various groups of students. More information about this process may be obtained from Local Accountability Assistance, California Department of Education

Oral language assessment. Audiotapes, videotapes, and assessment software along with anecdotal records can be used to determine a child's oral language development. Samples of the child's oral language are saved periodically and examined to determine progress.

To turn literacy and language assessments into a comprehensive portfolio that goes to the next grade with the child, the teacher completes summary documentation, such as a developmental profile on which the child's growth is noted, along with anecdotal records. Thus, most of a student's remaining work samples can be sent home at the end of the school year.

Individual diagnosis. Early childhood assessment focuses on individual diagnosis. Each student's performance is sampled frequently throughout the year to document learning, guide decisions about appropriate instruction, and provide information that can be shared with parents.

Figure 5-5, "Assessment of Language Development," illustrates ongoing assessment of oral communication for a child whose home language is Hmong.[12]

Xang, a child in Joe's class, is beginning to respond to English and to his environment. A bilingual aide and Joe document the child's developing skills and share observations. Together they discuss Xang's "next steps."

Self-assessment. Children's self-assessment is an important part of a literacy program. It may include editing or reading checklists, checklists of known words or word patterns, or questionnaires or surveys. Self-assessment provides more immediate feedback than the usually delayed teacher evaluation, promotes student ownership of the reading/writing process, increases the students' investment in learning, and may provide insight into the students' thinking and attitude about literacy (Pinnell and Fountas 1998).

Teacher collaboration. Some elementary school staff meet within and across grade levels to assist with assessments, expectations, and curriculum. *Every Child a Reader* (1995) specifically recommends a strong collaboration to plan and coordinate effective transitions into kindergarten. *Continuity for Young Children: Positive Transitions to Elementary School* (1997) contains information about effective transitions, effects on literacy, books to read to children about starting school, and examples of promising programs, including those with teacher collaboration.

Intervention

Intervention refers to the additional support provided by well-trained specialists to a student who is not progressing appropriately in reading proficiency. Intervention is certainly not limited to special needs placement. Well-planned and effective teaching in the early elementary grades is the best strategy to teach students to become literate (*Preventing Reading Difficulties* 1998). Preschool and elementary curriculum should be designed to help *each* child to achieve. However, when children are not reading at grade level or when they are at risk of having future reading difficulties, intervention strategies should be implemented quickly, at least by mid-first grade. It is estimated that intervention may be needed for as many as 20 percent of the students in any given classroom. *Every Child a Reader* states that schools must have an action plan

---

[12] This assessment record is illustrative only and is not meant to convey full screening assessments for reading. Educators should formulate these records according to the district or state standards, with guidance from the state curriculum frameworks.

Assessment of Language Development

The following chart models the development of a child's abilities to use language. Reading should adapt according to standards or programmatic requirements or both.

Communication Home Language: Hmong

Name: Xang 1997-98 (Kindergarten)

1. Attempts to communicate in some way	2. Attempts to communicate with speech	3. Takes conversational turn (responds verbally when spoken to)	4. Uses language for many purposes (to satisfy needs or ask questions)
8/31/97	9/12/97		
5. Carries on a conversation	6. Maintains a topic of conversation	7. Describes future plans	8. Uses language to direct and motivate actions of others appropriately

Observations of Teachers

8/31/97—Xang pointed to the easel and pulled me toward it. I asked, "Do you want to paint?" He nodded vigorously, and I helped him put on the smock and get started. He painted a large circular figure and then painted over it using several colors of paint.

9/12/97—Xang pointed to blocks and asked, "Me play?" I replied, " You want to play with the blocks?" (Big smile and nodding) "Go and play," I said. He went into the block center and began to play; he chatted with Chang while he played.

Figure 5-5

for students who, by mid-first grade, do not meet the specified standards. Ongoing assessment will form the basis for a teacher's decision to seek interventions that could include the following:

- Differential treatment (additional or revised instruction);
- One-on-one tutoring from a highly trained professional;
- Small group work led by the classroom teacher;
- Collecting diagnostic information more frequently;
- Providing guided reading and writing activities daily;
- Enlisting additional people for reading to, with, and by children;
- Monitored homework, including reading and writing outside of class each day;
- Student study team strategies; and
- Categorical support for in-class or out-of-class assistance, including before- and after-school child care, intersession, and summer programs.

BEST COPY AVAILABLE

Parents should immediately be informed of the need for intervention, but specific intervention strategies may not require prior parent approval; for example, providing guided reading activities daily instead of twice a week. If diagnosed and dealt with early, children's potential reading difficulties may be ameliorated. For example, diagnosing a child's hearing loss and obtaining a hearing aid and speech therapy will enable a child to identify and produce appropriate sounds of letters and words.

Quality preschool programs with highly trained staff make a big difference in children's literacy achievement. The High/Scope curricular approach, evaluated over two decades, has been shown to improve academic achievement, reduce referrals and retentions, and result in individuals contributing more highly to society (Hohmann and Weikart 1995; Schweinhart, Barnes, and Weikart 1993).

Programs such as Even Start Family Literacy offer preventive intervention before students fall behind (Brizius and Foster 1993). Others, such as Success for All and the Accelerated Schools Project offer intensive schoolwide interventions to help students learn skills and concepts quickly (Slavin et al. 1994) (see the Accelerated Schools Project Web site at <http://www.Stanford.edu/group/ASP/natlcenter.html>). Volunteers can provide important support, but the involvement of highly trained personnel is critical. Intervention must always be linked to regular classroom instruction to assist students in making important connections.

Approaches that may help students experience grade-level standards include the following: increase instructional time for reading, reduce class sizes, provide multiage grouping (see Chapter 4, "Considering Mixed-Age Grouping in Early Primary Programs"), improve staff development, obtain additional resources for students who are learning English, help parents to work with their children, provide quality preschool experiences linked to the elementary program, refer or schedule free or low-cost health and dental care so that children do not miss school, and serve nutritious school breakfasts and lunches so that children can concentrate. Further information on early intervention is included in *Teaching Reading* (1996) and the *Reading/Language Arts Framework* (1999).

Appropriate Instruction and Assessment for English Learners

In California 30 percent of the kindergarten through sixth grade students are limited English proficient (Language Census 1998). The state's linguistic diversity presents an opportunity and a challenge: the opportunity is for the state to become a multilingual society, as are many countries; the challenge is to reach this potential. To meet this challenge, educators and the public must view language learning and cultural enhancement as a resource, not as a deficiency.

The two goals for English learners are to become proficient in English and to meet or exceed state-level academic standards. Because of recent changes in California law, instruction for most English learners will be "overwhelmingly in English." Students in kindergarten through grade twelve whose parents have obtained Parental Exception Waivers may be taught language arts in their primary language and work to achieve the same academic standards for their grade level, with appropriate modifications.

Primary language instruction for preschool-age children. Evidence shows that supporting primary language development in preschool has positive effects on academic achievement and English acquisition. A Spanish-only preschool program in the Carpenteria Unified School District was designed to integrate language with numerous concrete activities and literacy-related experiences. The children received instruction in Spanish, yet outperformed comparison learners on a test of conversational English and exceeded published norms on tests of school readiness and academic achievement. "Although project participants were exposed to less total English, they—because of their enhanced first language skill and concept knowledge—were better able to comprehend the English they were exposed to" (Campos and Keatings in Cummins 1986).

Research by Wong Fillmore (1991a, 1991b) raises concerns about preschool English-submersion programs. She and others found that submersing children in English-only preschools may lead to children losing their ability to communicate effectively in their primary language, a loss that undermines family relationships and adversely affects conceptual development.

Educators' attitudes and knowledge base. A teacher's attitude and knowledge base are crucial in setting the educational goals of acceptance and appreciation of diversity (Ramsey 1987). To maximize learning for all children, but especially for English learners, teachers can:

- Accept individual differences with regard to language-learning time frames;
- Accept children's attempts to communicate because trial and error are a part of the second language learning process;
- Provide a stimulating, active, diverse linguistic environment with many opportunities for language use in meaningful social interactions (see p. 44 for oral language ideas);
- Incorporate culturally responsive experiences for all children; and
- Provide classroom materials that appreciate and depict the lives and literature of diverse cultural groups (Soto 1991; Harris 1991).

Resources for educators of English learners. Advice for educators seeking information about how best to teach young English learners is rapidly being enlarged. Readers are referred to the following resources:

- "Phonics for Spanish Speakers" in Appendix D
- "Multilingual and Multicultural Resources" in Appendix D
- *Fostering the Development of a First and a Second Language in Early Childhood* (print and videotape materials)
- *Assessing the Development of a First and a Second Language in Early Childhood* (print and videotape materials)
- *Reading/Language Arts Framework for California Public Schools, Kindergarten Through Grade Twelve* (see Chapter 7, "Universal Access")
- *English–Language Arts Content Standards*
- *Suggested Activities Related to Language Development for Preschool-Age Children*, by Cervantes and Giberga
- *Educating English Learners for the Twenty-First Century: The Report of the Proposition 227 Task Force* (1999)
- Language Proficiency and Academic Accountability Office of the California Department of Education (information on legal guidelines for the State Program for English Learners)
- California Department of Education Web site <http://www.cde.ca.gov> (information on regulations, demographics, the English Learners Education Network, Resources for English Learners, accountability requirements, Proposition 227 implementation, and demonstration programs)

Assessment for English learners. One of the biggest challenges for programs that serve linguistically diverse young children is the issue of assessment. The complexities of assessing young children in general were addressed earlier in this chapter. In particular, assessment of young children must prevent two kinds of errors: (1) some children may be misidentified as developmentally delayed or even as disabled on the basis of their level of English proficiency; and (2) some children who *are* developmentally delayed or have a disability may go without needed services because accurate assessments in their primary language that are sensitive to their culture are not available (Wolfe 1994; Cummins 1986). The resource guide *Assessing the Development of a First and a Second Language in Early Childhood* (1998) provides much information about appropriate assessment for young children. Other information is included in the *Reading/Language Arts Framework for California Public Schools* and the California Department of Education's Web site <http://www.cde.ca.gov>.

Health and Physical Education for Young Children

Health and physical education are promoted through children's experiences that emphasize maintaining personal health and mastering fundamental movement skills.[13] Two factors are central:

1. Emphasis must be on lifelong, positive health-related attitudes and behaviors that begin to be developed in the home and are supported and reinforced by the education community.

2. A comprehensive system to promote children's health must be developed and sustained by collaboration of educators, parents, board members, community leaders, and health and social services agencies and providers (*Health Framework* 1994, p. 2).

Young Children's Understanding of Health

The development of health literacy—the knowledge, skills, and behaviors needed for healthy living—is enhanced when children actively explore concepts, analyze and solve real problems, and work individually and together on tasks that promote healthy lifestyles. A health curriculum based on what children need to know and be able to do should build on natural curiosity; make learning engaging; and offer interesting experiences for children to become aware, explore, inquire, and use health knowledge or skills (Hendricks and Smith 1995, pp. 68–69).[14]

Some health topics are not well-suited to young children. They do not understand and may become fearful about complex health issues, such as diseases. Teachers should simplify complex topics, provide daily routines that emphasize healthful living, and work with parents in each of the following content areas:

1. *Personal health.* Young children can establish positive habits and begin to understand that they are responsible for their own health. Helped by caring adults, they develop a positive self-concept, begin to identify and express emotions, and build positive interpersonal relationships to support individual health and well-being. Because children from some cultural and ethnic groups do not recount accomplishments or openly express emotions, teachers may need to observe other indicators of a strong self-concept (*The American Indian* 1991).

   Rosa shares, "My classroom reinforces positive health habits. The dramatic play area has empty containers for nutritious foods and a basin of water for washing the baby doll. Children wash before eating and brush their teeth afterward. They develop independence and success, such as in learning to pour juice." Joe adds, "The class extends health knowledge with its library books on health, a doctor's office for dramatic play, and safety signs on the playground. But most important—we spend time talking and thinking about healthy lifestyles and choices."

2. *Family life.* Young children can understand that many family structures exist and can be comfortable with their own. They also can learn that family structures change through birth, death, marriage, and divorce. Classroom books and pictures should display all types of families positively. Children's responsibility as family helpers can be discussed with classmates.

3. *Nutrition.* Preschoolers can recognize different types of foods and understand that some are better for one's body. Although still

---

[13] Key health and physical education concepts and skills are found in the following publications: *Health Framework for California Public Schools, Kindergarten Through Grade Twelve; Physical Education Framework for California Public Schools, Kindergarten Through Grade Twelve; Challenge Standards for Student Success: Health Education; Challenge Standards for Student Success: Physical Education; National Health Education Standards: Achieving Health Literacy; Developmentally Appropriate Physical Education Practices for Children;* articles by Gallahue (1995) and by Hendricks and Smith (1995). Complete citations for these publications appear in the references section.

[14] The *Health Framework* has suggestions for curriculum, instruction, and resources for kindergarten through grade twelve. Suggestions for preschool health curricula are found in *Young Children on the Grow: Healthy Activity and Education in the Preschool Setting,* which is cited in the references section.

BEST COPY AVAILABLE

primarily interested in taste, five- or six-year-olds can select more nutritious foods; and they are interested in how foods help their body grow. Kindergartners and first graders are also generally able to categorize food groups and plan a simple, balanced daily diet. Healthy meals planned according to U.S. Department of Agriculture guidelines should be available. A model nutrition curriculum for preschool through grade twelve is found in the series *Nutrition Education: Choose Well, Be Well,* published by the California Department of Education.

4. *Injury prevention and safety.* Many injuries can be prevented by structuring a safe environment, providing proper supervision, and helping children avoid high-risk behaviors, such as riding a bike without wearing a helmet. While preschoolers can follow rules, they may not understand the reasons for such rules as older children do. A teacher's frequent checks of equipment and materials and emphasis on key safety rules will prevent injuries, especially if reinforcing discussion occurs. Direct teaching of such topics as traffic signals, bike and fire safety, and safe classroom behavior, coupled with positive daily routines and behavior modeled by the teacher, will help children gain knowledge.

5. *Community health.* Young children should become familiar and comfortable with community members involved in health concerns and begin to see that individuals work together on communitywide health issues, such as participating in the local heart walkathon. Some programs offer Healthy Start resources, volunteer medical and dental services, or referrals for health care.

6. *Consumer health.* A goal for young children is their understanding of the role of advertising in promoting healthful and unhealthful products. While preschoolers may not be able to distinguish television shows from advertisements, they can become aware of the power of advertising and recognize healthful products. Kindergartners and first graders can begin to recognize truths and myths in advertising. The dramatic play area may contain empty containers for shampoo, sunscreen, and soap. Children match names on advertising coupons with the names on empty containers or lids to the containers. Older children write commercials for health products.

7. *Substance use and abuse.* The best programs address parent education; build children's self-esteem and decision-making and problem-solving skills; and teach about tobacco, alcohol, prescriptions, and over-the-counter medicines in a simple manner. Preschoolers can focus on the concept "too much" by having experiences with things that are too heavy to carry or clothes too big for a doll. Older children realize that cigarette smoke smells bad and is harmful to breathe. Decision making and problem solving are not isolated occurrences but a part of the daily routine.[15]

8. *Environmental health.* Young children begin to be aware that environmental issues affect their health and that their behavior can affect the environment. Preschoolers can become involved in environmental activities through the use of their senses to learn about the outdoors and through their ability to care for pets or plants. Children in kindergarten and grade one can read about environmental issues in *Brother Eagle, Sister Sky* (Chief Seattle 1991), *The Desert Is Theirs* (Baylor 1975), *The Mitten* (Tresselt 1985), and *Jump, Frog, Jump!* (Kalan 1981).[16] Older children can participate in environmental advocacy projects, such as recycling.

---

[15] Examples of decision-making and problem-solving curricula are found in these sources: articles by Hohmann and Weikart (1995); Dodge and Colker (1992); Crary (1984); and *Actions for Health* (1992). Complete citations for these sources appear in the references section.

[16] For other resources see the *Science Framework for California Public Schools, Kindergarten Through Grade Twelve* and *Read to Me: Recommended Literature for Children Ages Two Through Seven,* both of which are published by the California Department of Education.

9. *Disease prevention and control.* This area emphasizes taking precautions, such as immunizations and handwashing, to prevent disease and seeking prompt medical attention when needed. Because preschoolers may worry about specific diseases, teachers should focus on habits to maintain health (handwashing and table cleaning) and routines to avoid germs (covering the mouth when sneezing and so forth). Older children can understand that germs cause diseases. Adults model and call children's attention to good health practices.

Assessing Young Children in Health

Educators assess young students' progress in accepting personal responsibility for lifelong health; respecting and promoting the health of others; understanding the process of growth and development; and becoming informed users of health-related information, products, and services. The *Health Framework for California Public Schools* (1994, p. 175) recommends that health assessments:

- Be consistent with the framework's and district's goals and standards.
- Focus on knowledge, skills, attitudes, and behaviors rather than on knowledge only.
- Provide useful feedback to individual students, teachers, parents, and the community.
- Gather baseline health literacy data so that behavioral changes can be tracked over time.
- Measure the extent to which the comprehensive school health program enhances and reinforces health literacy.
- Promote ongoing refinement of health education and the comprehensive school health system.

Young Children's Understanding of Physical Education

Physical education is a mutually supportive part of a comprehensive health program. Educators have a primary responsibility in this area to produce a physically educated person; that is, one who *has* the necessary movement skills, *is* physically fit, *participates* regularly in physical activity, *knows* the benefits of involvement in physical activity, and *values* physical activity and its contribution to a healthy lifestyle.[17]

Movement is critically important for young children. Research shows that movement influences and is influenced by cognitive, motor, and affective domains of human behavior (Gallahue 1995, p. 125). Because of children's variability with movement skills, early childhood educators should use developmental physical education practices; that is, emphasize the acquisition of sequential movement skills based on each child's unique developmental level. A teacher's decisions about what, when, and how to teach should be based on individual appropriateness instead of on age appropriateness (*Developmentally Appropriate Physical Education* 1992; *Looking at Physical Education* 1995).

Preschoolers are solo learners, exploring locomotor and nonlocomotor movement individually in their own personal space. They move for the sheer enjoyment of the exploration of space rather than for the achievement of a goal or for success in a particular activity. Kindergartners and first graders tend to participate in parallel play (playing side by side with another child) in which they are involved in their own individual activity and beginning to interact with others. With frequent practice, positive encouragement, and knowledgeable instruction in a supportive environment, children master fundamental movement skills. Therefore, physical education activities begin as children are taught to *learn to move* and to *learn through movement*. While young children may practice at recess, they need instruction on locomotion, manipulation, and stability skills in order to fully develop physically (see Figure 5-6, "Categories of Movement Skills").

Teachers of young children should not emphasize competition but instead should encourage children to recognize the intrinsic reward of doing one's personal best. At about the age of ten, children are ready physiologically, socially, and emotionally to

---

[17] See *Developmentally Appropriate Physical Education Practices for Children* 1992; *Outcomes of Quality Physical Education Programs* 1992; Gallahue 1995; *Moving into the Future: Developmentally Appropriate Practice in Movement Programs* 1995.

Categories of Movement Skills

Locomotion	**Manipulation**	**Stability**
The body is transported in a horizontal or vertical direction from one point in space to another.	Gross motor manipulation involves giving force to objects or receiving force from objects; fine motor manipulation involves being able to handle objects, demonstrating motor control, precision, and accuracy.	The body remains in place but moves around its horizontal or vertical axis. Stability includes dynamic balance tasks in which a premium is placed on gaining or maintaining balance in relationship to the force of gravity.
Basic (one element)	**Propulsive**	**Axial**
1. Walking 2. Running 3. Leaping 4. Jumping 5. Hopping	1. Throwing 2. Kicking 3. Punting 4. Striking 5. Volleying 6. Bouncing 7. Rolling	1. Bending 2. Stretching 3. Twisting 4. Turning 5. Swinging
Combinations	**Absorptive**	**Static and Dynamic Postures**
Two or more elements that are introduced only after children have mastered the basic elements of a single fundamental movement skill. 1. Galloping 2. Sliding 3. Skipping 4. Climbing	1. Catching 2. Trapping	1. Upright balancing 2. Inverted balancing 3. Rolling 4. Starting 5. Stopping 6. Dodging

Source: Gallahue 1995. "Transforming Physical Education Curriculum." In *Reaching Potentials: Transforming Early Childhood Curriculum and Assessment,* Vol. 2, p. 131. Edited by S. Bredekamp and T. Rosegrant. Washington, D.C.: National Association for the Education of Young Children. Reprinted with permission from the National Association for the Education of Young Children.

Figure 5-6

BEST COPY AVAILABLE

participate in other levels of competitive activities. Sensitive teachers also prevent children from experiencing the humiliation of being chosen last or of being dropped from a team (*Physical Education Framework* 1994, p. 10).

Rosa shares that she uses problem-solving and movement-challenge techniques that ask leading questions, such as "Who can . . . ?" "How many ways can you . . . ?" "See if you can . . ." Her objective is for children to explore, experiment, and discover for themselves the general aspects of the task.

Learning a new movement skill requires young children to pay attention to each detail; however, they tire easily as a result of the mental requirements. Some group games, such as Duck, Duck, Goose, contribute little to a child's acquisition of movement skills because those activities provide little opportunity to move (Gallahue and Ozmun 1995). Classes for children with special needs or disabilities should be taught by physical education teachers who know how to design and implement programs for such students. Physical education should support and interact with other subject areas.[18]

The acquisition of movement skills occurs in stages (*Physical Ability and Well-Being* 1986; Gallahue and Ozmun 1995). The period from two years to seven years of age is generally considered the fundamental movement stage during which children master basic locomotor, manipulative, and stability skills and progress from the initial stage through the elementary stage to the mature stage. The task's requirements, the individual's biologic makeup, and the environment's conditions interact to determine the rate and extent of any movement's developmental level. The stages of movement skills are:

1. *Initial stage.* Children make initial purposeful attempts at performing a task. Although a three-year-old may throw a ball, the movement is relatively uncoordinated, exaggerated, or inhibited. Adults offer vigorous indoor and outdoor play experiences that enable each child to progress.
2. *Elementary stage.* Typically, four- and five-year-olds gain greater control over their movements and are more coordinated. However, movements are still somewhat awkward. Young children need practice and knowledgeable instruction so that they can progress to the next stage.
3. *Mature stage.* By age six or seven, children who have had previous instruction and practice generally have the potential to be at the mature stage in most fundamental movement skills except for those that involve tracking, such as hitting a pitched ball. At this stage all parts of a basic movement are integrated so that a child's movement is coordinated, efficient, and mechanically correct. For children at this stage, teachers focus more on the product than on the process. They help a child improve according to standards of how far, how fast, and how many.

To plan appropriate physical education experiences, the educator must identify both the children's developmental level and level of learning movement skills. For example, preschoolers are typically at the initial stage within the fundamental movement phase (see Figure 5-7, "Levels of Learning a New Movement Skill"). The teacher develops awareness of the essential elements of fundamental movement skills and provides ample opportunity for movement exploration and self-discovery.

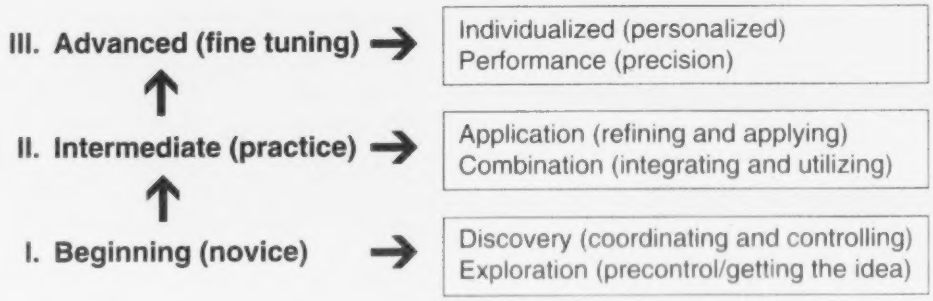
Joe relates that many of his students have the general ideas of movement, so he focuses on skill refinement through practice in a variety of play and cooperative game activities. Later, by scheduling sportslike games, he helps students fine-tune movements and apply their movement skills.

The *Physical Education Framework* (1994) recommends that each day's lesson should contain

---

[18] For examples, see *Physical Education Framework for California Public Schools, Kindergarten Through Grade Twelve* 1994, pp. 53–4.

Levels of Learning a New Movement Skill



III. Advanced (fine tuning) →
Individualized (personalized)
Performance (precision)

II. Intermediate (practice) →
Application (refining and applying)
Combination (integrating and utilizing)

I. Beginning (novice) →
Discovery (coordinating and controlling)
Exploration (precontrol/getting the idea)

Adapted from Gallahue, D. L., and J. C. Ozmun. 1997. *Understanding Motor Development: Infants, Children, Adolescents, Adults* (Fourth edition). Dubuque, Iowa: William C. Brown. Reproduced with the permission of the McGraw-Hill Companies.

Figure 5-7

one- to two-minute warm-up exercises involving the muscles to be used in the instructional phase. Instruction includes demonstrations and explanations followed by the children's activity phase. The activity ensures each child enough practice time to acquire the desired skill with a minimum of waiting to take turns, a maximum of space and required materials, and teacher feedback to individual students. The last phase is discussion about the lesson.

Selecting an appropriate teaching style to use in a lesson should not be left to chance, but should be planned according to the difficulty of the skill, the ability of the children, and the conditions of the environment. A variety of teaching styles, including teacher-directed and student-initiated learning, are used to individualize and maximize learning. Teaching styles include command, practice, self-check, guided discovery, student-designed and student-initiated teaching, and self-teaching. Instructional approaches include competency-based learning, contract learning, drill, information processing, lecture, mastery learning, programmed instruction, and role playing. All of these are explained in more detail in the *Physical Education Framework*.

Cooperative learning and the use of various media resources are other teaching techniques that are helpful in improving physical education and social skills. Bilingual or sign language interpreters may be needed to help children develop physically. In the absence of translators, sheltered instruction may help children acquire information as the teacher clearly enunciates; controls vocabulary; uses few idioms; and incorporates gestures, facial expressions, demonstrations, props, visuals, and overhead transparencies.

Assessing Young Children in Physical Education

Assessment in physical education includes motor assessment, which is done before and after instruction on a movement skill. Educators may focus on form, style, and/or mechanics of the movement *process*. After mastering the process of a movement, children may later be assessed on *product*; that is, how far, how fast, how high, how many.

Assessment methods may include written tests; videotaped performances; cooperative learning activities; individual, small-group, and class projects; problem-solving tasks; small-group and class discussions; task cards; contracts; self-assessment; and homework. On the basis of the evaluations, teachers may need to modify learning experiences.[19]

---

[19] See Gallahue 1995, pp. 139–42, for examples of assessment tools suitable for young children.

History–Social Science for Young Children

Educators, families, and the community share responsibility for preparing children for the challenges of the twenty-first century. Those challenges include understanding the rights and responsibilities of citizenship and using historical literacy to make informed, personal, and political decisions. To plan appropriate and challenging programs, an early childhood teacher must know key social science concepts for various grade levels,[20] ways in which young children learn, the children's present concepts and knowledge, the children's social and cultural contexts, techniques to expand children's awareness and exploration of various concepts, and ways to effectively assess children's progress. Two challenges—adjusting to continuity and to change—are important parts of the history–social science curriculum.

Young Children's Understanding of History–Social Science

Because young children are egocentric and have not completely learned to take the perspective of others, the history–social science curriculum should begin with their own experiences. Starting in preschool and continuing thereafter, history–social science activities promote children's knowledge about themselves and others, the nature of the world and their place in it, and ways in which to be productive members of a democratic society. A child's home culture is included in the shared culture of the classroom so that the unique contributions of each student are recognized and valued. Multicultural information is integrated into various subject areas instead of being reserved for special days.

Civics. Children ages four to seven exhibit various degrees of social skills, which, in turn, affect their ability to participate in the group and thus learn elements of civics (Katz 1997). Some, but not all, five- and six-year-olds are able to carry out activities over a number of days, take turns, negotiate, and cooperate. To help children develop social skills, teachers model, direct teach, and coach.

Joe was glad to note that Daniel, a boy who wore leg braces, was included by his classmates in projects and play; that they handed him his crutches when he wanted to stand; and that classmates helped him with his coat. Joe explains to Rosa, "It didn't just happen. I did a lot of modeling, but I also explained what and why I was doing certain things like, 'Holding the chair makes it easier for Daniel to get up.' While modeling helped, I also had to direct teach some of the behaviors."

While it may take years to understand democracy, four- to seven-year-olds begin to lay the foundation. Four-year-olds can solve a class problem and thus learn firsthand what it means to work together as a group. Kindergartners establish class rules and then help each other live up to them. Older children assume responsibility for rules that affect the entire school, such as not littering the campus.

Four-year-olds do not generally understand the concept of majority, nor do they accept losing. Their voting experiences should be to select preferences: for example, a vote for chocolate or vanilla pudding for snack, with both being available. Older children's voting experiences may include the concept of majority and winning, such as voting on a name for the class guinea pig. Young children learn much about civics from discussions about quality literature, such as *Friends* (Heine 1982), *The Pearl* (Heine 1985), and *It's Mine* (Lionni 1986).

Geography. Geography appropriate for four- to seven-year-olds includes finding out about the world and their place in it. To accomplish this, they become familiar with maps, use directions and locations, and identify characteristics of the place in which they live and ways in which humans affect the geography of the land.

Young children may not understand formal mapping, but experiences in building models of their classroom, the school, and neighborhood, followed by drawing their representation, will build mapping skills (Miller 1985). Knowledge of abstract concepts of direction are best gained through sensorimotor experiences—climbing, running, crawling—while children begin to use the vocabulary of direction. Children with disabilities have an even greater need to experience themselves in space (Seefeldt 1995). Left and right may initially be understood by preschoolers in terms of their own body, but it may take several years for them to identify left and right when they are looking at someone else.

---

[20] Key social science concepts are found in the *History–Social Science Framework for California Public Schools* 1997; *History–Social Science Content Standards* 1999; *National Standards for History for Grades K–4* 1994; *Geography for Life: National Geography Standards* 1994; *National Standards for Civics and Government* 1994; and Seefeldt 1995. Complete citations for these publications appear in the references section.

Geographical understanding is also enhanced when young children learn to describe their environment. Walks provide preschoolers with active experiences of *hard/soft, rough/smooth, water/land,* or *sandy/loamy*. Older children may identify and describe land forms in their own community and use reference materials to compare them with those of other communities.

Although the solar system is beyond the understanding of this age group, the children begin to sense consequences of the earth's movements—by noticing and discussing shadows, night and day, and climate changes. To effectively teach geography concepts to young children, a teacher gives verbal labels, extends experiences with reference materials and books, and continually encourages questions and reflections.

History. Historical thinking, including causal analysis, takes many years to acquire, but its foundation may be laid early in elementary school. Charlotte Crabtree (1992) describes teachers striking a balance between (1) rich narrative history that moves along a chronology of events in an interesting and compelling manner; and (2) "dramatic moments" for students to explore in more depth and make history come vividly alive. To best organize such a rich curriculum, she offers three approaches for teachers of kindergarten through grade two:

1. *The here-there-then approach* in which children start with a study of their immediate present and move outward in space and back in time.

2. *The expanding environments approach* includes yearly historical and literary studies that connect with that year's topics of family, neighborhood, or community.

3. *The great book approach* centers yearly instruction on literature or primary documents that bring to life particular historical times. As Diane Ravitch (1987) states, "History as a good story is not a bad approach to take with children (aged five through eight). History as an opportunity to exercise the imagination and live in another era is also a good approach for very young children."

Because history is predominantly abstract, young children need quality literature about historical periods, followed by discussion about the characters, events, locations, motives, and consequences. Teachers capitalize on using firsthand experiences that hold personal meaning for children.

Rosa states, "I use concrete objects to translate a personal history for preschoolers. I read Tell Me a Story, Mama, *(Johnson 1989) in which a young girl asks her mother to tell a bedtime story about the mother's childhood. The book encourages awareness of continuity in a family's history. To follow up, the children collect an object from each year of their lives and then begin family histories. Throughout the year we study families, houses, clothing, and transportation."*

Stories, movies, and art contain themes of conflict, personal choices, sacrifice, responsibility, change, struggle, and achievement—all of which engage children in the perspectives of others and expand their knowledge. References to good literature that expands children's sense of time and space and helps them discover contributions of men and women of many cultures and times can be found in several annotated bibliographies (McCracken 1993; the September issues of *Young Children: Read to Me* 1992; *Literature for History–Social Science* 1993; *Recommended Readings in Literature* 1996). Literature that is appropriate for social studies lends itself to play acting or to readers' theater, has a clear setting and characters, unfolds in a straightforward manner, stimulates follow-up art activities, and is relevant to all children.

To be able to later understand chronological thinking, an abstract concept beyond the understanding of most four- to seven-year olds, young children must experience concepts of the past, change, and continuity of life in a manner suitable to their stages of development.

The Past. Preschoolers think in terms of time as they experience the daily, cyclical, recurring, and sequential events in their lives (Seefeldt 1995). Preschool teachers organize daily routines in a predictable fashion so that children can depend on events with regularity; for example, a nap after preschoolers have lunch. Names of days of the week or months are types of social knowledge that is simply told to them in a meaningful context, rather than spending significant time each day with recitation. Kindergartners and first graders begin to associate the daily routines with clock time and talk about events that occurred previously.

Rosa shares, "Preschoolers understand time by recalling recent experiences. Today we remembered what it was like last week to roll in the pile of leaves. I have time measurement tools in the dramatic play area—a clock, timer, and calendar." Joe's field trip photographs are pinned on a clothesline across a corner of the classroom, sequenced according to students' ideas brought out during the discussion. Later studies will result in new photographs and posters being added to the line. Students will decide whether activities are "today," "yesterday," "early in the school year," "when our parents were children," or "long ago." This spatial display of time makes history more accessible to young children (Crabtree 1989).

Change. Young children are especially interested in change that occurs to them; later, they will be interested in changes in their environment and in others. Through discussion, adults help children develop their concept of change.

During the year Joe's students observe the changes in the apple trees near the school. Children record their observations in drawings, charts, and journals. Supporting their burgeoning ability to associate the passage of time with external events, Joe reads a series of stories about trees and their changes. One of Rosa's students has a new brother. Rosa displays baby clothes and books about babies, and children compare baby shoes with their own. Later the class members discuss how they have changed since they were babies and how they may change in the future. Rosa follows up with Pig, Pig Grows Up *(McPhail 1980) and* The Growing Story *(Krauss 1947).*

Continuity of life. Rather more esoteric for children is the concept of continuity. Student interviews with grandparents about similar games they played when young; examples of continuity found in books, such as *Knots on a Counting Rope* (Martin 1987); artifacts that show an enduring role, such as dolls—all these provide examples of the ongoing nature of life.

Integration of History–Social Science

History–social science is a natural for integrating other areas of the curriculum. The curriculum lends itself to supporting many different approaches to learning, including taking part in discussions, comparing and contrasting topics, participating in musical activities from a variety of cultures and time periods, and becoming involved in cooperative research projects.

In September Joe's students use blocks to make a model of their school, which they then map on large sheets of paper and later on smaller sheets. A month later they construct an imaginary neighborhood. They role-play dairy, post office, and hospital workers, using clothes and props. Ongoing discussions incorporate the social science theme—"Changes." As a culminating activity, students choose topics for research projects. One child makes a book showing changes over time in clothing. Four children build models of houses from various countries, comparing and contrasting building materials. Two children use a print of Winslow Homer's "Crack the Whip" to compare with games played today. The walls and tables of *the classroom become displays reflecting the title "Changes Over Time and Space."*

Learning Centers for History–Social Science

The following nine examples of centers extend the classroom history–social science curriculum:

1. *Block area.* The block area conveys geographic concepts and helps children expand social skills, both of which are emphasized in the kindergarten standards (*History–Social Science Content Standards* 1999). It is particularly effective for encouraging cross-gender and cross-cultural peer interactions (DuCharme 1997).

   Rosa's students apply geography as they build a model of their park. Green paper represents lawn, a mirror represents a pond, and sandpaper becomes the climbing area. Their language shows developing knowledge about weather and cause and effect, as when Neng says, "I put fence 'round pond in winter—keep kids out. Winter cold for kids."

2. *Sand and water table.* In terms of social studies, this area helps develop concepts of landforms, such as mountains and rivers.

   Rosa's students build roads and structures for the sand and water table. Rosa's photographs of new homes being built nearby demonstrate the building sequence and stimulate language about time. The children add new features to their increasingly complex constructions.

3. *Dramatic play area.* The dramatic play area incorporates the community's cultural, economic, and geographic diversity, especially through prop boxes—materials and artifacts that focus on a particular topic or activity. Well-stocked prop boxes and follow-up discussion help children learn how to get along with each other, grow cognitively as they make sense of their experiences, use their imagination, build language and literacy skills, realize the perspectives of others, use small and large muscles, experience multicultural activities in a relevant way rather than as isolated units or lessons, and learn to think and make decisions (Myhre 1993; Boutte, Van Scoy, and Hendley 1996). In addition, the dramatic play area may offer concrete experiences relative to the history standards for kindergarten and grade one.

   Joe invites parents to contribute dramatic play props. A dairyman lends milk containers and an old-fashioned butter churn. After a field trip to a dairy farm, the children fill a rubber glove with water, poke holes in each finger, and hang it over the sink to practice "milking." Books and videos about milk processing and marketing extend the concepts learned during the field trip.

4. *Class library.* The library offers numerous choices of fiction and nonfiction books that are relevant, nonsexist, nonbiased, culturally diverse, and content related. Children experience literature and expository text on history–social science topics individually and in whole and small groups.

5. *Writing area.* The writing area enables children to use various materials to represent in a written format what they experience in social studies lessons and activities.

   Rosa's class creates a quilt from fabric scraps. The children tape a small piece of fabric in their journals and dictate or write why this fabric is special.

6. *Art area.* The art area enables children to contrast and compare representations by artists and illustrators from different times and places and provides opportunities for children to experience cultural and ethnic designs. Art activities can contribute to K/1 students' achievement of the history–social science standards.

   Rosa says, "My art area includes a display of patterns from around the world. Hmong parents contributed samples of their embroidery, Timarra shared her sister's African cloth collection, and Luis shared a family *serape. A Native American community organization lent some small baskets, and I added art books from the county office of education. Children's own patterns add to this display."*

7. *Music area.* The music area offers choices of instruments and recorded music from around the world, especially representing those cultural groups found in the class or the school. Books with audiotapes and videotapes show people moving to music in different cultures or playing instruments from different times and places.
8. *Outdoors.* The outdoor area is a scene for games, vehicles, props, role playing, and carrying out classroom themes. With so many choices, children need to establish rules, negotiate strategies, and take turns, all of which contribute to their social growth. Props increase the complexity of play, social interaction, and language skills.
9. *Cooking area.* The cooking area enables children to experience various foods, styles of preparation, kitchen tools, and technology from the present and the past. Parents and community members may help prepare a favorite recipe that represents their culture or traditions.

   Joe's class reads Bread, Bread, Bread *(Morris 1989), which shows people sharing various breads from all over the world. The class studies all types of breads it can locate in the community and learns which cultures they represent. The children plot their findings on a world map, and they experiment with a variety of bread recipes.*

Assessing Young Children in History–Social Science

Ongoing assessment of children's growing understanding of history–social science concepts is important because it enables the teacher to ascertain children's learning and to plan appropriate classroom activities. Many of the assessment techniques mentioned in previous sections work equally well with this subject area.

This space is provided to file related materials

88

Mathematics for Young Children

Students who are meeting or exceeding the mathematical content standards have mathematical knowledge, skills, and conceptual understanding that they apply in mathematical reasoning activities linked to their own experiences. Also, they are able to communicate their problem-solving methods to others. The teacher's roles include having an in-depth knowledge about mathematics, setting up a classroom environment and schedule that support children's development of mathematical ideas, analyzing the thought processes of children as they ponder particular problems, using varied instructional strategies, and facilitating children's communication of mathematical ideas with the teacher and peers.

Materials are available to guide educators in preparing mathematically powerful students.[21] In 1995 the California Mathematics Task Force's recommendations in *Improving Mathematics Achievement for All California Students* identified the need for mathematics programs that reflect a balance of basic skills, conceptual understanding, and problem solving. The subsequent "Mathematics Program Advisory" (1996) provided guidance for educators, parents, and community members in reviewing and improving their mathematics programs. In 1997 the California State Board of Education adopted standards for kindergarten through grade twelve. In 1999 the *Mathematics Framework for California Public Schools, Kindergarten Through Grade Twelve* was made available to guide districts, schools, and others in writing local curricula and adopting instructional resources. The *Framework,* which is aligned with the *California Mathematics Content Standards,* includes information on a comprehensive mathematics curriculum that addresses, for young students, effective instruction and assessment in these five strands: number sense; algebra and functions; measurement and geometry; statistics, data analysis, and probability; and mathematical reasoning.

Understanding Children's Reasoning

Aspects of how young children learn affect teachers' decisions about mathematics curriculum and instruction. Young children, especially preschoolers, are beginning to perceive patterns and discriminate between various forms. Their learning is based on actively exploring materials and objects in their daily lives, thinking and reflecting on their experiences, and integrating concepts across subject areas. Preschoolers grasp one idea at a time; for example, being able to sort red blocks, but not red, square ones. Because they may not have developed perspectivism, they do not understand an alternative viewpoint. They may work alongside other children instead of collaborating with them. They may be able to count by rote and replicate practiced routines, but not understand the complexities or concepts involved, such as one-to-one correspondence. Kindergartners and first graders are becoming aware of the constancy of numbers and quantity, but prior to this awareness, they may not understand that objects rearranged in a set remain the same number (conservation).

Preschooler Maria helps pass out the snack—cream cheese and jelly sandwiches. A parent cuts several sandwiches in half and later begins to cut in fourths for ease of eating. When Maria protests that some children got more of the snack than others did, the helper cuts all the sandwiches in fourths.

Primary-age children are in the process of developing logical mathematical thought. With no logical necessity to be consistent, most children before the age of seven describe what they perceive through their senses. This sense of consistency is learned through hands-on activities with concrete materials that reinforce conservation of number or quantity. The emerging consistency of logic seen in conservation experiences is basic to logical mathematical thinking. Students, especially preschoolers and kindergartners, tend to develop mathematical understandings through oral, pictorial, or physical means rather than through symbolic means (*Mathematics for the Young Child* 1990).

---

[21] This section incorporates information from *Mathematics Content Standards for California Public Schools, Kindergarten Through Grade Twelve* 1998; *Mathematics Framework for California Public Schools, Kindergarten Through Grade Twelve* 1999; and Richardson and Salkeld 1995. Complete citations for these publications appear in the references section.

Creating a Comprehensive Mathematics Curriculum

A comprehensive mathematics program provides challenging, rigorous mathematics for all students; balances students' opportunities to become proficient with basic skills, develop conceptual understanding, and become adept at problem solving; is aligned with California's mathematics content standards; and guides and supports students so that they can succeed in mathematics (for examples of grade-level activities, see the *Mathematics Framework for California Public Schools*).

Components of the program. The material that follows, from the 1996 mathematics program advisory, further examines these concepts. The following three components are mutually reinforcing and interrelated:

1. *Computational and procedural skills.* Computational and procedural skills are those that all students should use routinely and automatically. Students should practice basic computational and procedural skills sufficiently and use them frequently enough to commit them to memory. Students must understand the reasoning, structure, and logic behind the skills. Students more readily learn a skill when they see how it will be useful or are intrigued by a problem that requires that skill.

2. *Conceptual understanding.* Conceptual understanding enables students to make sense of mathematics. They know not only how to apply skills, but when to apply them, and why they are being applied. Conceptual understanding enables students to apply their computational and procedural skills in situations and problems they have not necessarily encountered before. For example, elementary school students should understand conceptually that one way of thinking about multiplication is as repeated addition.

3. *Problem solving.* Problem solving involves applying skills, understandings, and experiences to resolve new or perplexing mathematical situations. Solving problems generally has the following sequences of activities:
   - Formulating and analyzing problems (e.g., by identifying basic assumptions, extraneous information, and patterns);
   - Finding solutions (e.g., by graphing, measuring, representation, and using computational skills); and
   - Verifying and interpreting solutions (e.g., comparing to estimates, checking that solutions make sense, deducing generalizations, and connecting to other problems).

Strands of the program. The comprehensive mathematics curriculum in this document is presented in separate strands solely for organizational purposes. Some activities, such as mathematical reasoning, may cut across strands or subject areas. And each strand may not be given equal weight during each year of mathematics education (Burton et al. 1991a, 1991b; *Mathematics Framework* 1999; California Kindergarten Association 1998).

1. *Number sense.* Young children learn about numbers from experience: they count how many, measure how much, and label objects in a collection. Over time they develop number sense, a sense for quantity in increasingly complex situations. This development leads to an understanding of basic operations of addition, subtraction, multiplication, and division. Through number sense one does more than count—one measures, compares, predicts, and estimates using numbers. Number sense involves understanding not only the meanings and relationships of numbers but also the relative magnitude of numbers; for example, "How big is three compared with four?" As children develop number sense, they also develop a special confidence about number concepts and the ability to use this understanding to estimate

and to solve problems. Children who understand the five following conditions for number sense are counting rationally, not just repeating number words that they have memorized, and are ready to start more formal activities with numbers (Unglaub 1997; Greenberg 1993–94):

- Number sense involves children in knowing that they can count any grouping of items, even if the items are different; for example, a child counts ten blocks, even though they have different shapes.
- Number sense means that children realize the stable order of counting. A child who counts, "1, 2, 3, 7, 4, 8, 5, 6, 9, 10," does not yet understand the stable, sequential order.
- Number sense also means that children have developed a one-to-one correspondence (assigning one number per item). Young children touch each object as they say the number words so as not to skip any items or numbers.
- It does not matter which item children count first, as long as each item is counted.
- Finally, children need to realize that the last number they said in counting one-to-one is the total number of items.

Young children need many opportunities to use numbers. Together or individually they may count their collections of things; distribute snacks or other materials; collectively keep records of attendance; or play games that incorporate numbers, such as searching for five oranges hidden in the classroom or guessing the number the teacher has in mind. Some preschool and kindergarten teachers facilitate cleanup by asking each child to put away three things or by attaching to each game a drawing showing game pieces that must be put away; for example, pictures of four red markers, four blue markers, and a die. After numerous opportunities to use real-life experiences with numbers, the K/1 teacher will provide opportunities for students to commit the number facts to memory through association activities, such as short, interesting practice and games.

The use of a posted number line to count the number of days of school is one way to illustrate counting by ones (for kindergartners) and by twos, fives, and tens (for first graders). Although young children may count by tens, for example, they need frequent recounting by ones so that they can verify their total. As they become more assured of their number sense, the need to verify will diminish. It is also important for children to have many experiences estimating and refining their estimates.

Joe shows his students a large glass jar and a walnut. He asks them to estimate in their math journals the number of walnuts needed to fill the jar. Several students share their estimates—ranging from 5 to 50—on the chalkboard. When the jar holds six walnuts and is half-full, Joe asks the children whether they want to revise their estimates. New estimates range from 9 to 25, and several children explain their reasons for revising. Joe gains insight into each child's evolving number sense (Richardson and Salkeld 1995).

2. *Algebra and functions.* Children's search for patterns is fundamental to mathematics at all grade levels. Preschoolers' and early elementary students' capacities for classification develop, for example, from using a class name when a particular object's name is unknown ("That thing's a fruit"); making graphic collections with no logical similarities ("I have a yellow block and a red one and one with a hole and a long one"); and sorting by consistent criteria but into many groups (buttons with one hole, two holes, three holes, and so forth). Older children are able to grasp the multiple perspectives necessary to understand that an object can belong to more than one class and that objects can be sorted according to multiple attributes. By

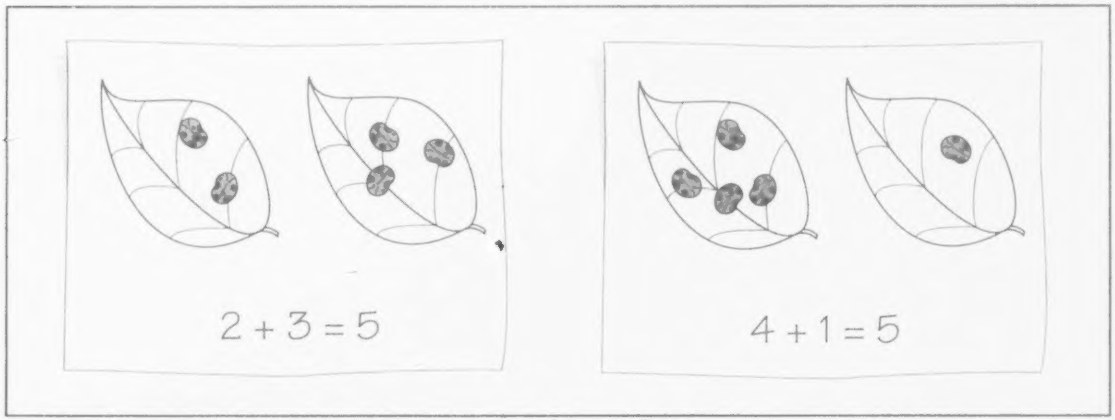
providing daily opportunities to explore and investigate interesting objects and talk about them, teachers help children learn to classify, sort, and make predictions (see "Classification" in Hohmann, Banet, and Weikart 1979, pp. 191–216; see Burns' [1992] ideas to use with the book *The Button Box*, by Margarette Reid).

Algebra and functions standards for first graders emphasize number sentences and solving problems. It is ill-advised to attempt teaching addition and subtraction, both of which are complex processes, to kindergartners or first graders who have not acquired number sense. These children will need many experiences with numerals, using real-world examples, before their number sense is strong enough to expand. Through hands-on, real-world activities, children begin to comprehend addition and subtraction facts. Teachers work with children to ensure that their knowledge of number facts is committed to memory. One activity to help children investigate the different ways a number can be expressed as the sum of two addends is the Ladybug and Leaves activity. Children have the same number of beans painted like ladybugs and a work mat with two leaves drawn on it. They find and record all the ways to represent a number. Extensions of this activity are found in the California Kindergarten Association's *Art Really Teaches* (1998).

3. *Measurement and geometry.* As young children take things apart and fit them together, they explore space and shapes of objects. Children's discussions of daily events and activities to compare and order objects help them to understand concepts of time, properties of shapes, and identities of geometric objects. Measurement is the process of making comparisons between what is being measured and a standard to answer the question, "How long?" Strategies to teach linear measurement are found in Gossett (1997).

Early in the school year, Joe's students use a nonstandard unit—their foot length—to measure playground distances for a school map. They discuss differences in distances resulting from different foot sizes. Later measurement activities use a standard, noncustomary unit, such as a large paper clip, to measure objects. Students later make the transition to standard customary units, such as a yardstick or ruler, to measure classroom and outdoor objects (Gossett 1997).

Teachers support children's exploration of geometry by providing opportunities and by modeling language so that children begin to label their ideas and communicate in a more precise way. Preschoolers may fill three-dimensional shapes with sand and make designs with parquetry blocks. Typically, the



teacher initially supplies the mathematical language and asks the questions that may help children move to the next level of exploration. For children not yet ready to ask questions or apply their knowledge, sensitive teachers provide later experiences to help those children in the development of geometry concepts.

4. *Statistics, data analysis, and probability.* As young children represent shapes and quantities, they begin to use graphs, charts, and tables to show data. They begin to use statistics to answer real questions about their world (Russell and Corwin 1990; Stone and Russell 1990). Teachers also provide many activities in which students observe, identify, and describe patterns and, in first grade, sort according to the pattern.

   Rosa's students cut out magazine pictures of the kinds of pets they have. They paste their pictures in columns on chart paper and discuss creating a simple graph that shows dogs as the most common pet. Each day various students in Joe's classroom ask their classmates questions and do a survey of the responses. They determine the best way to gather the data and to portray the responses on a graph. Sandra and Christine ask students to identify their favorite television show. When they forget which students have responded, they decide to write each student's name beside his or her answer. They discover that many of the boys like a particular show but hardly any girls do. Starting with the television shows with the highest number of responses, they design their tally charts to show the girls' favorite shows compared with those of the boys.

5. *Mathematical reasoning.* Young children develop mathematical reasoning through a wide variety of meaningful classroom and home activities. Individually or in a group, they decide how to approach a problem, which materials to use, how to model their solution for others, and which means to use to verify any original estimate and their calculated result. Teachers or family members may help supply any needed tools or manipulatives with which to model the children's problems. When children discuss their solutions and reasoning, a deeper understanding of concepts occurs. First graders should have opportunities to connect a current problem or solution with previous ones.

   Joe presents a problem for his K/1 students, recognizing that there will be a variety of approaches to its solution. "At the recycling center a child receives five cents for each of eight cans he collected. How much did he receive?" Children use manipulatives, paper, and pencil to solve the problem. Some draw pictures of each can with a nickel stamped under each. Their total shows they counted by fives. One child uses five bottle caps to line up under a magazine picture of soda. When she has completed her task, 40 bottle caps are on her desk, and her drawing reflects this. A group of kindergartners uses five cans from the dramatic play area and places stamped nickels on pieces of paper under each can. Individuals or groups present their solutions. Children listen to the different explanations and ask clarifying questions of their classmates. Through discussion and demonstrations, the children see different ways to solve the problem. The merits of each solution are considered.

Using Mathematical Tools and Techniques

Students are expected to learn how to use common mathematical tools and techniques in school. Those who have many opportunities to use various mathematical tools or to use noncustomary objects in a mathematical way strengthen their understanding of mathematics.

Children's literature books may also be an effective motivator for and vehicle of mathematics instruction (Burns 1992; *Literature for Science and Mathematics* 1993). Activities in various subject areas may advance mathematical understanding, but integration does not mean that mathematics should be an incidental part of the curriculum. By thoroughly planning and allowing young learners to explore, use, and discover mathematical concepts and tools through "doing," educators better prepare children to achieve high standards and to think logically (Kamii 1982).

In the class post office, K/1 students write to pen pals in Alaska. Children contribute stamps from various countries and pin them to appropriate locations on a world map. They talk about the stamps' values in various currencies, such as "pesos" and "won."

Joe uses direct instruction to help students learn to use mathematical tools and techniques. First, children explore the tools, such as various scales, and then Joe records their questions. He addresses some of these questions during direct instruction; for example, weighing children's letters to determine the postage. He then plans a guided activity, such as asking the children to determine the best type of scale for measuring very light to very heavy objects. Later, students self-select activities to practice skills and strengthen their understanding of mathematical concepts. New questions emerge, and the children consolidate their learning from the direct teaching and guided experiences already introduced.

In the spring, to help first graders' use of number facts become more automatic, Joe has timed one-minute mathematics tests. Students complete as many simple addition or subtraction problems as they can in one minute. In math journals, each student graphs his or her own number of correct answers to show improvement over time.

Using Mathematics for Social Interaction, Communication, and Celebration of Diversity

Children do not learn and think in isolation; instead, they develop mathematical concepts and reasoning abilities through social interaction and communication in the classroom and community. California classrooms are a rich environment with many points of view, languages, and cultures. Successful mathematics programs use nonracist and nonsexist language, culturally diverse situations, and teaching materials to make mathematics accessible to all.

Eduardo brings in several postcards and stamps from Mexico. The K/1 children notice a cancellation stamp. Eduardo explains that the numbers indicate the date, but he is unsure of the place. The next day he comes back with a road map of Jalisco and shows his classmates where Colima is located. He informs the class that his family drove from Guadalajara to visit relatives in Colima—more than 200 kilometers (124 miles). The students discuss how far 124 miles is from their school. Using a California map scale and some string, they calculate that distance from their community so that they can relate the distance to familiar locations.

Teachers of young children build a core program of activities for children at different instructional levels in mathematics. Open-ended materials, such as parquetry blocks, Cuisenaire rods, and geoboards help children extend and reinforce mathematical concepts through activities that interest them. Teachers may use the mathematics curriculum to address gender and multicultural needs of students.

Joe says, "One of my objectives in the K/1 carpentry project is to especially support girls' sense of mathematical competence. I show career options for men and women in mathematics, engineering, and architecture. Children work individually and in groups to solve mathematical problems so that those at differing levels can work together." Rosa adds, "When Timarra showed the class samples of the African cloth that her sister collected, the preschoolers compared the patterns with those they had already studied in preschool. I incorporate diversity into everyday activities: We have Korean-style chopsticks, spoons, soup bowls, and rice bowls in the dramatic play area. Setting the table also involves two-to-one correspondence between the chopsticks and the bowl. A set of *nesting Russian dolls in the manipulative area can be matched and then seriated from large to small. Our class library has numerous books about numbers, shapes, and patterns."*

Taking a Look at Mathematics Assessment

Standards-based assessment guides instruction in all the mathematics strands. By documenting tasks that demonstrate what children know and are able to do, teachers can see and address identified needs in computational and procedureal skill development, conceptual understanding, and problem-solving strategies. The *Mathematics Framework* (1999) lists three types of assessment that are crucial to achieving the standards:

- Entry-level assessment (Does each student have prerequisite skills and knowledge? Does each student already know material that is to be taught?)
- Progress monitoring (Is the student adequately progressing to meet grade-level standards?)
- Summative evaluation (Has the student achieved or exceeded the standards?)

Through anecdotal records and other means, many of which were described in the Language Arts section of this chapter, assessment is an ongoing integral part of teaching mathematics. When periodic and ongoing assessments indicate that students are not progressing adequately to achieve standards, teachers adjust instruction and intervene as soon as possible. If students have already achieved grade-level standards, teachers differentiate their curriculum so they may move on (Richardson 1988; *Mathematics Framework* 1999).

In the sandbox Lee T. makes castles by using three different-sized molds. Rosa notes that he gathers pine needles and carefully places four needles on each castle. "One, two, three, four . . . like my birthday cake," he explains. Joe's students use geoboards in one teacher-initiated investigation. He asks them to find out how many different triangles they can make on one geoboard. Sandra spends 20 minutes making triangles of different shapes and sizes with the colored rubber bands. Joe takes photographs of the geoboard and makes notes of her efforts and conversation as a record of her progress for her mathematics portfolio. An individual child's summary sheet on Joe's class computer shows each K/1 mathematics standard with space for Joe to write notes about a child's dates for accomplishing a standard. He also uses this summary sheet to group children for particular mathematics lessons.

In the spring Rosa and Joe review their assessment procedures. Joe realizes that, in addition to aiding curriculum planning, anecdotal records and portfolio samples of work provide in-depth information for conferences with parents. He also appreciates the summaries he receives from Rosa, which help him to see children's ongoing development. Rosa adds, "Our portfolios are organized according to the unifying topics in our program and include summarizing records for the kindergarten teacher. They also include photographs of children's investigations, periodic samples of their work, and a printout of my computer-stored records. I also include an audiotape of children's explanations of their mathematics-related projects."

This space is provided to file related materials.

BEST COPY AVAILABLE

Science for Young Children

Science for young children builds on their innate curiosity to observe, wonder, and make sense of the world around them.[22] Science includes both knowledge about specific phenomena and the general strategies or processes used to collect and to evaluate such information. In *Science for All Americans* (1989) and *Science and Technology Education* (1989), a third aspect of science—the use of technology, meaning the application of science to problems of human adaptation to the environment—is also included. Standards developed by the National Center for Improving Science Education (*Getting Started in* Science 1990) and the National Committee on Science Education Standards and Assessment (*National Science Education Standards* 1996) for kindergarten through grade twelve are broad enough to serve as guidelines for preschool science education as well. Overarching goals for young children's science education are as follows:

- Develop each child's innate curiosity about the world;
- Broaden each child's procedural and thinking skills for investigating the world, solving problems, and making decisions; and
- Increase each child's knowledge of the natural world.

More information about these goals follows.

Develop each child's innate curiosity about the world. This goal relates to children's attitudes and dispositions, such as curiosity, persistence, objectivity, respect for living organisms, and recognition of the beauty and interdependence of the environment.

Broaden each child's procedural and thinking skills for investigating the world, solving problems, and making decisions. The following processes and skills are appropriate science behaviors for young children:

Observing. Using senses to learn about characteristics of the environment. Preschoolers tend to identify one or two characteristics, such as color and "feel" of leaves, whereas early elementary age children tend to notice more details.

Communicating. Naming, recording, and sharing information with others. Preschoolers talk about or physically represent their observations as they learn to connect the "real thing" and its representation; for example, they slide on the floor, making movements similar to those of worms they have observed. Early elementary age children report a sequence of observations and record their data in graphs, pictures, or print.

Comparing. Measuring, counting, quantifying, and/or examining objects or events according to their similarities and differences. Preschoolers begin by comparing a particular characteristic, whereas older students are aware of several characteristics and are more likely to compare similarities and differences.

Higher scientific processes of interpreting data, making analogies, and synthesizing are beyond the understanding of most first graders (Victor and Kellough 1997, p. 29; *Science Framework Addendum* 1984, p. 4).

Increase each child's knowledge of the natural world. The *Science Framework for California Public Schools* emphasizes the big ideas of science; integration of science content and processes; and alignment of curriculum, instruction, and assessment. A big idea is an important part of the domain of understanding of physical, earth, or life science; for example, living things are made of smaller structures whose functions enable the organisms to survive. Children explore a small number of science concepts through ongoing experiences during the year, and they concentrate on some topics in depth.

Young Children's Understanding of Science

State or local standards or both determine which major concepts will compose science instruction at each grade level. Guided by knowledge about how young children think and learn, their individual

---

[22] This document incorporates information from *Science Framework for California Public Schools* 1990; the standards, curriculum, and assessments recommended by the National Center for Improving Science Education in *Getting Started in Science* 1990; suggestions about developmentally appropriate science instruction by Kilmer and Hotman 1995; and *Science Content Standards for California Public Schools, Kindergarten Through Grade Twelve* 1999 (adopted by the California State Board of Education in 1998). Complete citations for these publications appear in the references section.

BEST COPY AVAILABLE

characteristics, and their social and cultural contexts, early childhood teachers use standards to help organize a coherent science curriculum. Before asking the students questions or extending the activity, teachers work with individuals or small groups and provide them with time and interesting materials to explore.

Joe and Rosa have participated in several meetings as a part of the school's involvement in the California Science Implementation Network. All the teachers meet periodically to discuss and plan classroom curriculum and assessment activities that are aligned with district and state standards for the earth, life, and physical sciences.

The topics and materials studied for concept development vary, given the locale and prior experiences of children. For example, studying seashells may be an appropriate activity to provide examples of variations in life forms for young children living (or visiting) near the ocean, whereas studying this life form may not be as appropriate for children from the mountains, valleys, or deserts. Emphasis on the familiar does not mean that new concepts or different perspectives are not introduced to young children, but rather that the unfamiliar topics or processes should begin with a connection to the child's current knowledge or experiences. Many science concepts for young children may be introduced through investigative play experiences (Wasserman and Ivany 1996).

Joe's class studies apples from the nearby farms by looking at them in relation to other fruit, to their life cycle, and to the process of decomposition as fruits decay from the activity of oxygen and microorganisms. The children see fruits in different forms: raw, cooked, dried, and jellied. As the investigation of apples continues, children have questions that can be meshed with the big idea Joe is developing related to the life cycle of plants; for example, "What are cells?" "How do they grow and decay?" "What happens when substances change?"

Young children often have deeply held conceptions about how the natural world works. Sometimes the teacher can build on these views. Other times learning can occur only when, through new experiences, the child becomes aware of the inconsistencies of these prior notions. Teaching is not simply delivering new information. It takes patient elucidation over time with opportunities for students to test their self-constructed theories against the evidence. Especially for young children, optimal learning includes social processing through active participation by students and continuous interaction with each other and their teacher (*Getting Started in Science* 1990; Loucks-Horsely and others 1989). For example, young children might believe that the water level is diminishing in the aquarium because the fish are drinking it. A wise teacher may set up an experiment—another aquarium with no fish for children to observe and determine whether the water level goes down. Class discussion will cause children to question their understandings and reach a new conclusion.

Children's active involvement in science means more than just handling materials. It also means the child effects change in the phenomenon by her or his own actions; the results are immediate, and the child is able to observe the results (DeVries and Kohlberg 1987). This involvement is demonstrated in a development-based example of one basic science concept as shown in Figure 5-8.

The Science Classroom

Whether the study of science occurs during a particular time for the whole class, in small groups, or during ongoing science center activities, teachers plan for students' exploration and follow-up discussion of that shared science experience. A science center should be safe and attractive and should change frequently, invite children to investigate, and extend their observations through the use of tools and representations. Living things should be a valued part of all classrooms. There should be a sufficient quantity of quality resource materials for children's and adults' use. Likely suppliers of these materials, which may take time to acquire, may be teacher supply stores, secondhand stores, parents, businesses, county offices of education, and—when done respectfully—nature itself.

Developmentally Appropriate Example of a Basic Science Concept

Basic Concept: Constancy and Change	Exploration/ Inquiry—Three- to Four-Year-Olds	Exploration/ Inquiry—Five- to Six-Year-Olds	Exploration/ Inquiry—Seven- to Eight-Year-Olds
Everything is continually changing (a series of lessons and activities).	*Observing baby pictures* Each child brings pictures of self as a baby. *Focusing questions:* How are you the same? How have you changed? (Repeat discussion periodically throughout the year.)	*Making whipping cream* Children shake cream in a jar until it turns into whipping cream. Sample on gingerbread. *Focusing questions:* What was the cream like when we started? What was it like when we finished? Why and how did it change? (Follow-up activities include melting ice, boiling water, making gelatin or bread.)	*Understanding rusting* Each child selects objects from an array (buttons, paper clips, nails, and so forth) to place in a jar lid filled with water; adds water daily; and records in his or her science journal which items rust. *Focusing questions:* Tell me about rusting. How can you make something rust? How can you keep something from rusting? (Follow-up activities include observing an apple left on a countertop. How is this the same? Different? Also bury a pumpkin at Halloween. Check back in two weeks and in four weeks.)

Source: Kilmer and Hofman 1995. "Transforming Science Curriculum," in *Reaching Potentials: Transforming Early Childhood Curriculum and Assessment.* Vol. 2. Edited by S. Bredekamp and T. Rosegrant. Washington, D.C.: National Association for the Education of Young Children. Reprinted with permission from the National Association for the Education of Young Children.

Figure 5-8

BEST COPY AVAILABLE

There are several types of science centers. An *interest center* may contain materials for children to feel, smell, or observe, such as a display of leaves. A *discovery center* suggests that children will be asked to take an action: for example, a variety of seeds are displayed for children to sort, count, and observe. Children and parents may add interesting cultural information about various seeds and enjoy the storybook *The Seed Song* (Saksie 1994). Children at an *inquiry center* will investigate something. Elementary school children might use task cards with open-ended questions: "How does it sound when containers with different amounts of water are tapped?" "How can the sound be changed?" "Talk with two persons about your observations and write your discoveries in your journal."

The teacher plays a critical role in a science classroom. He or she plans and prepares activities, teaches concepts and skills, facilitates children's growth of scientific understanding, models the learning behaviors expected of children, and enthusiastically wonders, "What happens if . . . ?" An early childhood teacher need not know everything about science, but must create an atmosphere that values each child's learning and perspective, supports inquiry and experimentation, and accepts "mistakes" that may even help children learn from "things going wrong." Three helpful tools for teachers are *Science for Children* (1988), which describes useful classroom resources and tells how to obtain them; *Literature for Science and Mathematics* (1993); and a Web site, Schools of California Online Resources for Education (SCORE), <http://www.score.k12.ca.us>.

As children learn, they proceed from awareness, to exploration and inquiry, and then to use of concepts learned. The teacher helps the child in this learning process by doing the following:

Building awareness by supporting keen observation. The teacher listens to and observes children's interactions during play and work, capitalizes on items the children bring to share, and encourages them to pose questions. An effective technique for increasing children's awareness and use of different approaches is for the educator to join the children in their activity and to begin by imitating what the children are doing. The teacher or other adult then gradually moves beyond what the children are doing (Forman and Hill 1984).

After blowing bubbles with the round bubble-blowing toy, Rosa begins to use some unfamiliar "bubble makers." Soon the children are experimenting and noticing the differences in bubbles coming through spaces in plastic strawberry boxes, connected straws, and a potato masher (Zubrowski 1979).

Providing encouragement and opportunities for exploration. The teacher uses open-ended questions to challenge students and provides assistance when the children request it.

Supporting inquiry through investigations. While still allowing the children to process and think about their ideas independently and interact with their peers, teachers guide the conversation with questions so that children gain understanding.

Using the concepts. In this step children demonstrate and use the concepts they have investigated. Teachers extend children's knowledge by using experience charts, individual journals, and class books and by reading related science books, integrating other subject areas, adding new items to the class collection, and perhaps doing a community or school project.

Teachers also hold "debriefings" or science meetings, which are opportunities for children to reflect on their experiences in order to make sense and develop meaning. Children may communicate their scientific understanding in a variety of ways—journal writing, class discussions, or cooperative projects—all of which enhance their perception of themselves as competent learners. Some guidelines for teachers during these debriefings are to record all responses; value and respect all ideas; encourage children to talk by providing wait time for responses; avoid the tendency to tell the answers or explain the facts; and use open-ended questions that promote a need for further exploration, such as, "Tell me more about that."

Assessment of Attitudes, Skills, and Knowledge

Assessments of children's attitudes, skills, and knowledge should focus on the science process and content, be based on multiple sources of information, and be ongoing (Hein 1987). The bases for young children's assessments are primarily the teacher's observations and discussions with the child(ren). For more formal assessment purposes, teachers should be consistent in their conversations with each child and should systematically record their observations at regular intervals throughout the year. The following are helpful practices to assess young children's learning in science:

Observations. Because comments from children reflect their conceptual understandings, teachers record children's comments during awareness, exploration, investigation, and utilization phases. Relevant comments are not limited to the science center. Teachers may also schedule a performance assessment task related to the basic concept being studied. Students are given equipment and materials and asked to perform a short experiment, make scientific observations, generate and record their data, and analyze their results. This task requires students to apply both new and previously gained information to solve the problem (*Assessment in Elementary School Science Education* 1989).

Interviews. A teacher's informal manner elicits responses for a tape recorder or paper record during individual or small-group interviews. Asking open-ended questions elicits a broader range of responses and may better show children's attitudes about science. Specific questions help assess children's skills ("What do you call this tool?") and concepts ("Tell me about planting seeds").

Portfolios. A collection of work over time is useful to assess children's developing understanding of science concepts. The portfolio may include a student's collection or an application of a science project. A computer disk with children's science stories, a video of a special investigation, a tape recording of a science interview, or photographs of science work can enrich the portfolio's evaluative capabilities.

Checklists. Although limited in scope, checklists help record children's attainment of important ideas and skills.

Joe realizes that families are an important resource in the assessment process. He surveys family members regarding their willingness to share a special collection, provide other resources, or speak to the class about the significance of science in their jobs or at home. His students take home a story response sheet to share about the chicks hatching in class. An adult or older sibling then writes or helps the child write his or her recollections of the classroom experience, after which the student shares the story in class and puts the sheet in his or her portfolio.

This space is provided to file related materials.

102

The Visual and Performing Arts for Young Children

"Art has the role in education of helping children become more themselves instead of more like everyone else. Each child's inner existence calls for expression and takes pleasure in such expression. The arts can be the medium for this expression if children have access to materials, the time to explore them, and respectful encouragement in their exploration." (Clemens 1991)

Dance, drama and theater, music, and the visual arts provide children with multiple avenues through which they can create, experience, analyze, and reorganize their experiences in ways that encourage their intuitive, emotional, and verbal responses. Teachers must plan comprehensive and development-based art experiences so that children may experience art in meaningful, productive ways. Some arts resources may be found at the Web site of the Getty Education Institute for the Arts: <http:artsednet.getty.edu>.

Young Children's Artistic Behaviors

Children's art is not an automatic consequence of growth, but the result of an active process of exploration and inquiry that occurs with facilitation by adults who offer appropriate materials, time, and space (Zurnmuelen 1990; Kindler 1995; Thompson 1995). Producing art—thinking about something and finding a way to express it—is a major cognitive accomplishment for young children (Raines and Canady 1990; Golumb 1992; "Art as Understanding" 1977; *Art Really Teaches* 1998).

Researchers no longer believe that children's artistic development occurs in precise, linear stages that are immune from influence. Rather, they recognize that children generally accomplish certain milestones that mark the course of development and visually represent their thinking at particular moments in their lives (Freeman 1980; Wilson and Wilson 1981; *Visual Order* 1985). Children's early scribbles become more controlled and placed with precision. Their discovery that a scribble resembles something results in a desire to create images, and symbolic activity begins in earnest. They begin to attach a name to the scribbles *as* they are drawing and later announce their intent *before* they draw, thereby committing themselves to a course of action and to the necessity of discovering a means to that end (Chapman 1978).

Rosa notices that Dan makes circular scribbles across his paper and then looks at it for several minutes. He announces that he made a train like the one his family recently rode on. Nearby, Jesse is drawing a cat, a fact that Rosa determines from his catlike sounds and movements. Rosa would not have fully understood his drawing's arcing flourish if she had not seen his "performance art." She realizes Dan is beginning to understand that his marks can represent an object and that Jesse's intent to create a cat was conveyed by his arc. She decides to offer each boy more opportunities to work with other children who have begun to draw simple figures and objects. Talk about their representations may stimulate Dan and Jesse to a new level.

Preschoolers need many opportunities to put pen (pencil, crayon, paint, chalk, and so forth) to paper so that they discover and explore fundamental representational concepts. They also need conversations about their representations to explain what their picture cannot yet visually convey. Many experiences are necessary before children can be expected to draw a particular object (Cox 1992). A child's early representation of a figure is simple; opportunities for experimentation and sharing with others will result in modifications and refinements. This age group begins to incorporate geometric shapes that eventually overlap or move to different parts of the paper to convey distance or size. By the end of first grade, children are conveying details about objects and events.[23]

---

[23] For additional information about visual arts milestones, see Thompson 1995.

Young children's musical behaviors include creating, listening, performing, and describing music.[24] Young children will improve their understanding of melody and rhythm as they sing, play instruments, and dance; but learning traditional music notation is usually too abstract for this age group. Because kindergartners and first graders are becoming socially conscious, it is appropriate to involve them in cooperative music play and group instrument play with xylophones, autoharps, or small percussion instruments or other simple instruments.

Artistic behaviors are encouraged when the classroom reflects the importance of the arts. The classroom should have displays of works of art done by both children and artists; photographs of paintings, sculpture, and architecture from around the world and from different time periods; books, souvenir playbills, and musical instruments from different parts of the world for children to see and use; and charts of arts-related vocabulary (Herberholz and Hanson 1995). Each day should provide opportunities for guided and spontaneous arts experiences individually or in small or whole groups. Artistic behaviors also expand when children engage in "messing around," that period of time when use of materials and media is open-ended and process is predominantly self-determined. After exploring a particular medium, students are helped by the teacher to develop skills that stimulate further exploration and creative expression.

In a small group, Joe introduces students to a xylophone. He taps three different bars as the group sings simple, familiar songs composed from the same three tones. The children listen and then sing a song while clapping its rhythm. They divide into two groups; one group sings while the other plays notes. Then they trade roles. During choice time some children experiment with the xylophones. Packdy strikes each bar with a wooden block to hear the transformed sound; Russell randomly taps on bars as he sings one of the class songs; Christine plays the class songs using the same three tones. Several present their own tunes during demonstration time.

To encourage artistic development, a teacher encourages alternative forms of observation and representations. When children build on areas of strength, as well as on a variety of intelligences or intellectual potentials, including spatial, kinesthetic, musical, interpersonal, and intrapersonal, the children's artistic abilities will grow (Gardner 1983).

David, a kindergartner with language delay, is frustrated by his inability to express himself verbally. He pulls Joe to the door, pointing excitedly at the falling raindrops. "Tell me what you see," says Joe, urging him to verbalize his discovery. David's frustration grows until he blurts out, "The rain go . . . ," and he jumps up and down to imitate the raindrops. Joe realizes that David needs additional modes of expression to compensate for his limited language, so he leads him to the paint easel and asks David if he would like to draw a picture of what he sees. David's painting is both a visual and a physical representation of the raindrops, as he makes staccato stabs with the blue-dipped paintbrush on the paper. Other children arrive at the easel to look and talk with David and Joe about David's painting. Soon the classroom art gallery begins to fill with pictures of storms, puddles, and rainbows. David frequently checks out a class book with descriptions and illustrations of rain.

Integrating other subject areas with the arts provides ways for students to make sense of their world and express their inner self. However, care must be taken not to subvert learning in one area of the curriculum in the interest of another. As stated by the Consortium of National Arts Education Associations in *National Standards for Arts Education* (1994, p. 13), forging connections across disciplines is one of the things the arts do best; but at the same time, the integrity of the arts disciplines must be maintained whenever integration occurs.

---

[24] Resources exist to help parents and teachers plan quality music experiences, such as the *Opportunity-to-Learn Standards for Music Instruction* 1994; *The School Music Program* 1994; Andress 1995; and movement and music guides, videotapes, and recordings from Weikart 1997. Complete citations for these sources appear in the references section.

Implementing a Comprehensive Arts Curriculum

The *Visual and Performing Arts Framework for California Public Schools, Kindergarten Through Grade Twelve* (1996, pp. 18–19) describes a comprehensive arts education program for all students as using three modes of instruction in teaching music, dance, theater, and visual arts. Such a program provides:

1. Instruction centering on individual disciplines: dance, music, theater, and visual arts (This approach develops skills in each discipline.)
2. Instruction connecting two or more of the arts disciplines
3. Instruction integrating the arts across the subject areas

The framework (pp. 20–22) also states that each of the arts—dance, music, theater, and visual arts—includes four components: artistic perception, creative expression, historical and cultural context, and aesthetic valuing.[25] Each of the arts is unique and essential in the curriculum because of the particular avenue of perception it develops. Each component is highlighted as follows, with an example representing one of the arts disciplines. The framework offers additional examples.

Artistic perception. Artistic perception occurs when young children use their senses to perceive works of art, objects in nature, events, and the environment. The teacher's role is to heighten those perceptions, encouraging children's awareness of their world. This task is accomplished not simply by making materials available but by talking and sharing about the materials and the students' explorations of them, making inquiries about techniques and discoveries, and using skills and techniques for future discoveries. This positive acceptance models for children the concept that each student may value objects in different ways.

Rosa's science table includes special collections, such as sea shells through which the children experience texture, pattern, weight, and size. Later Rosa adds a magnifying lens, flashlight, and pan of water so that the class can perceive the objects under different conditions. Rosa records the names of the children who apply these observation skills to noticing patterns in their parquetry block creations.

An appropriate approach to movement that involves artistic perception is to use dance to develop an awareness of the body as a source of potential movement and to experience ways in which the body reacts to stimuli, such as light or sound.

Creative expression. Creative expression occurs when children create an original work or perform the works of others. In the past, creative expression emphasized respect and support for the child's own creative process (Lowenfeld and Brittain 1970). More recently, a new emphasis has been on exposing children to the work of fine artists (Eisner 1985). Both approaches deserve consideration—process and product are both important to understand and appreciate the arts.

Creative expression in music occurs as young children spontaneously incorporate movement and song into their play. Young children learn music and singing by first listening to music and songs and then echoing bits of music or songs they recognize. Later, they are able to sing by themselves or in a group (Wolf 1994).

While students chant parts of "Goldilocks and the Three Bears," Joe notices that several clap their hands to its rhythm. After using sticks to beat the rhythm, Joe asks the children how they might create the one-two beat with only one instrument. Blanca suggests first hitting the sticks together, then tapping the floor. The group confirms this discovery. Joe explains that he has placed in the music center several books illustrating familiar songs and nursery rhymes. As they discover a familiar song based on a one-two beat, he asks them to demonstrate it to the class.

---

[25] These components are also included in *Challenge Standards for Student Success: Visual and Performing Arts* 1999 and Consortium of National Arts Education Association 1994. Complete citations for these sources appear in the references section.

Historical and cultural context. By learning about the historical and cultural context of the arts, children begin to understand the relationship of time and place to the arts in order to gain an appreciation and understanding of various cultures and of their personal heritage. The arts form a basis for comparing today with yesteryear. While dates and chronologies may not be understandable, what is important for young children to know is that people have always created art forms to document, celebrate, ponder, and enrich their lives (Thompson 1995).

Preschool teachers may acquaint children with art by displaying and discussing works of illustrators, their favorite books, or a parent-made embroidery or by presenting information about a statue in the park. By kindergarten and first grade, children may begin to explore more formally, analyzing the work of a particular artist or comparing the methods and materials used by several artists.

Joe displays prints of flower painting by various artists (such as Georgia O'Keefe, Vincent Van Gogh, and Hokusai, a traditional Japanese artist), photographs of real flowers, and colorful bouquets. The class discusses the size, shape, texture, and color of the real flowers, the artists' use of space and colors, and the sensations evoked by both the real flowers and the artworks. Joe demonstrates the use of curved lines to form the petals, some techniques that artists use to fill a canvas, and strategies to help children control their brush strokes. The guided lesson lasts about 20 minutes, and during choice time children paint their own interpretations of the flower displays using various skills they learned.

Artists representing various cultures may visit schools; local businesses or arts councils may sponsor performances; and family members may demonstrate their own artistry, such as whittling, dancing, or playing folk instruments. Children benefit from and enjoy the experience more fully when they can discuss beforehand what they will be seeing and when the performers involve the audience. Theatrical works capture historical and cultural contexts on which students can experience and reflect.

Children find much enthusiasm for drama in the classroom through improvisation, pantomime, storytelling, "acting-out" stories, flannel board stories, puppetry, and other activities involving performances. Even a preschooler may dictate "plays" to the teacher—perhaps a sentence or two: "The wind blew the boat in the ocean. A whale ate the people." The student author is the director, picking classmates to play the wind, boat, whale, and people. The director makes decisions as to where the characters stand and what action they take. After the children practice, the performance begins, with appropriate introductions, applause, and bows. Art thus combines with listening, speaking, writing (by teacher or student), and interpersonal behaviors.

Aesthetic valuing. As children learn and apply their knowledge of the other three arts components, they will begin to judge a work of art by personally responding to it. When teachers focus on the aesthetics of children's work with clay and encourage discussion of the process, children display greater interest and success, participate more, create better-quality products, and have more elaborate discussions (Douglas and Schwartz 1967). As children learn to describe, interpret, and evaluate artistic expression, they develop a greater awareness of beauty.

By modeling techniques for constructive criticism, teachers encourage students to learn from creative works done by others (Feeney and Moravcik 1987). For example, the Toledo Museum of Art has developed a model program that engages children in playful, but meaningful, conversations about art as they brainstorm about everything they notice in a painting.

Joe and Rosa agree that implementing a visual and performing arts program requires coordination to plan a sequential program that builds on previous knowledge. Rosa says, "It is helpful to have sample lessons for each of the arts standards. I also want to be sure that I am introducing development-based material that reflects an appropriate cultural and gender mix by artists." Joe adds, "Our school library, county office of education resource center, the Internet, and local museum offer a wide range of *materials. Our teachers of preschool and elementary school could work together to plan a comprehensive visual and performing arts program. We could each volunteer to develop some sample lessons with a list of helpful resources. That way it's not too overwhelming for individual teachers."*

Performance Assessment

Children learn to reflect on their own work as they and teachers evaluate their artistic development. Most children are eager to explain what they have done and why. Arts assessment offers opportunities for children to discuss their plans and ideas, recall what they did, and consider the results of their actions and decisions (Tudge and Rogoff 1989). Taking a few moments to discuss these things with a child is more satisfying and enriching to all involved (Thompson 1995). *Prelude to Performance Assessment in the Arts* (1993) uses the four components of instruction and the goals defined in the framework as guidelines in discussing examples of assessments in the arts.

Although a portfolio is commonly used to measure growth, other tools for evaluation also exist. Effective assessment depends on clear expectations or standards coupled with knowledge about appropriate curriculum and processes. A teacher of young children must be especially sensitive to nuances of children's responses to works of art. "A finger slowly tracing a shape or pointing out a detail, a nod, a shrug, a random observation, the incorporation of a theme into constructive or dramatic play—all are significant aesthetic responses" (Thompson 1994). Assessment may also show us the intensity of a child's involvement in art activities and ways in which the child uses art to address problems in other subject areas.

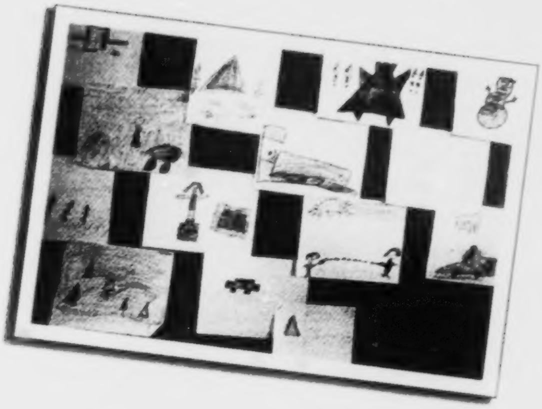
Arts assessment must be qualitative and quantitative and include broad representation and performance in visual art, theater, music, and dance. A sampling of each child's work, dated and annotated, shows changes in a child's control of media and ideas. A checklist using developmental milestones may be useful to show children's growth in the arts. Children's tape recordings or journals may include their responses to works of art. Computer programs may record a child's performance or visual art with comments by the child. A teacher may take photographs of a child's art when the child is ready.

By taking dictation or preparing anecdotal records, teachers may document the process in which a young child makes art. Because preschoolers, especially, engage in "performance art"—talking, gesturing, adding information verbally or physically—a videotape or an anecdotal record is especially helpful. These notes help adults to see the sequence of a child's decision making or approach to resolving problems. They also help the teacher to offer appropriate support for the child's reflections and to plan future curriculum.

The California Department of Education's *Visual and Performing Arts Framework* and the resource guide—*Literature for the Visual and Performing Arts* (1996)—provide the structure for teachers, administrators, and school boards to implement a comprehensive program. Kaagan (1997) provides another resource that is available on the Internet. This work discusses the attributes of a National Blue Ribbon (or exemplary) School that emphasizes arts education. The arts, rather than embellishing curriculum, are basic and provide new pathways to learning as well as opportunities for every child to create, communicate, and interpret ideas in a variety of forms.

CHAPTER 6

Planning an Integrated Early Primary Program



When planning curriculum, teachers consider their knowledge of child development, individual children's behaviors and temperaments, social and cultural contexts, good instructional practices, and the grade-level standards of the school district, state, or both. They plan long-term projects and short-term activities that enable children to develop cognitively, socially, emotionally, and physically and to achieve or exceed standards. The following questions are raised to help teachers with their planning:

- How does knowledge of child development guide the implementation of a rigorous curriculum?
- How can teachers be sure that the content of the curriculum meets the school district and state standards and expectations in all subject areas?
- How can teachers plan in a way that encourages respect for each child's individual, cultural, and linguistic differences?

A knowledge of child development enables teachers to implement a program that provides respect for individual students and development-based opportunities for students' learning and growth. The wide variety of growth patterns and experiences of four- to seven-year-olds demands that programs allow for a high degree of individualization. This individualization is not as critical in the upper grades where children have had unifying school experiences on which teachers build. Teachers individualize by suggesting new uses for materials, asking intriguing questions, interacting with each child, tailoring an activity for each child's current level of understanding, and integrating the curriculum, when appropriate (*A Guide to Program Development for Kindergarten* 1988). In this document the term *integration* means providing meaningful learning experiences that enable children to learn how to think and how to apply skills involving the various subject areas, rather than artificially dividing a school day into periods of study for each content area, an approach that may fragment young children's learning (Robison and Schwartz 1982).

Through an integrated curriculum, children are able to become purposefully involved with materials and peers and adults. Other compelling reasons for an integrated curriculum are that it enables children to see connections between their own lives and the curriculum, it provides more opportunities to apply skills in real-life situations, and it is motivational (Burns 1992). Ways to integrate the curriculum include using learning centers (see Chapter 3); extending play as a learning strategy (see Chapter 4); conducting student projects that encourage children to investigate a topic or set of materials and that help them to learn from the investigation (see the "History–Social Science" section in Chapter 5); and using theme-based units of study (see "Incorporating Thematic Learning" in this chapter).

While integration across the subject areas is especially helpful for young children, teachers are cautioned that the various disciplines must retain their rigor, breadth, and depth of coverage. Teachers and others ensure that standards are being met through planning curriculum, instructional methods, and assessments that are aligned to those standards. Analyzing and possibly adjusting favorite projects or assignments may be required to ensure that students achieve or exceed one or more particular standards. Meeting requisite standards does not mean that teachers necessarily teach separate lessons on each standard in all subject areas.

Chapter 5 offers information about aligning curriculum and assessment with standards. Jamentz (1998) offers a description of what students, teachers, and schools look like when they organize around a commitment to all students achieving high standards. Some descriptors are listed as follows.

- Each and every student is actively engaged in meaningful work.
- Each and every student is able to describe the expectations for and the quality of his or her own work, which is compared with performance indicators and rubrics.
- Each teacher is able to plan backwards from the content and performance standards, designing instructional activities that efficiently and effectively guide students to practice and eventually achieve the standards. This backward planning starts with the desired end result—achieving particular standards—and concludes with selection of the appropriate instruction, materials, and activities that will yield that result.
- Each teacher plans instruction that is not only engaging, but also is focused on the shared expectations for quality and on the assessed needs of individual learners.
- Schools institute rigorous inquiry, ongoing analysis of data, and norms of collaboration and accountability in order to continually reevaluate what they mean by quality work.
- Schools eliminate barriers that isolate teachers from one another and from the broader community. These conversations with the community involve parents and caregivers, members of professional organizations, business and religious leaders, and others who want to examine the purpose and goals of education.

Standards-driven school practices is a dialogue, not just a document. When members of the educational community have ongoing, action-oriented discussion about expectations, the nature of teaching and learning, and what works and does not work in the current educational system, society can be then more assured that individuals will build the will and skill for high achievement.

Incorporating Thematic Learning

Several California Department of Education frameworks and curriculum guides discuss concept development through the use of themes, which are defined as overarching ideas or concepts that sustain student interest, organize cross-disciplinary activities, and provide sufficient resources to enable students to delve into a topic more deeply. While not everything taught during class time must apply to the theme, the theme must be broad enough to enable all or most of the subject areas to have sufficient exposure so that their subject-specific content can be taught. For example, a theme for kindergarten through grade three about cycles could result in a wide range of activities and knowledge of cross-disciplinary concepts (see Figure 6-1, "Curriculum Web," and Figure 6-2, "Theme: Families").

A theme has one or more units or activities associated with it. For example, a unit on snow might be planned under the theme "Humans' Interactions with the Environment" or, for preschool, "Weather." The advantages of thematic teaching include the following:

- Content presented in a thematic, integrated fashion provides continuity and relevance for children.
- The class, by focusing on a common purpose, builds a sense of community within the class and outside the class, especially if service-learning (community service) is included.
- Thematic units and projects offer the teacher some flexibility in planning activities that incorporate students' interests.
- Children will more likely have opportunities to pace themselves and select experiences or modes of representing experiences.

Planning a development-based curriculum that is engaging and intellectually rich in content is a challenge constantly facing teachers of young children. Five major criteria to consider in planning themes are the following:

1. *Do the theme and units relate to children's daily lives?* Under the theme "Weather," a unit on snow may be ideal for some California preschoolers, but it may not be particularly relevant for those living in the desert. However, the unit may be relevant to all children if the teacher plans sensory experiences related to snow: for example, making snow cones, viewing films, reading books, and discussing personal experiences related to snow.

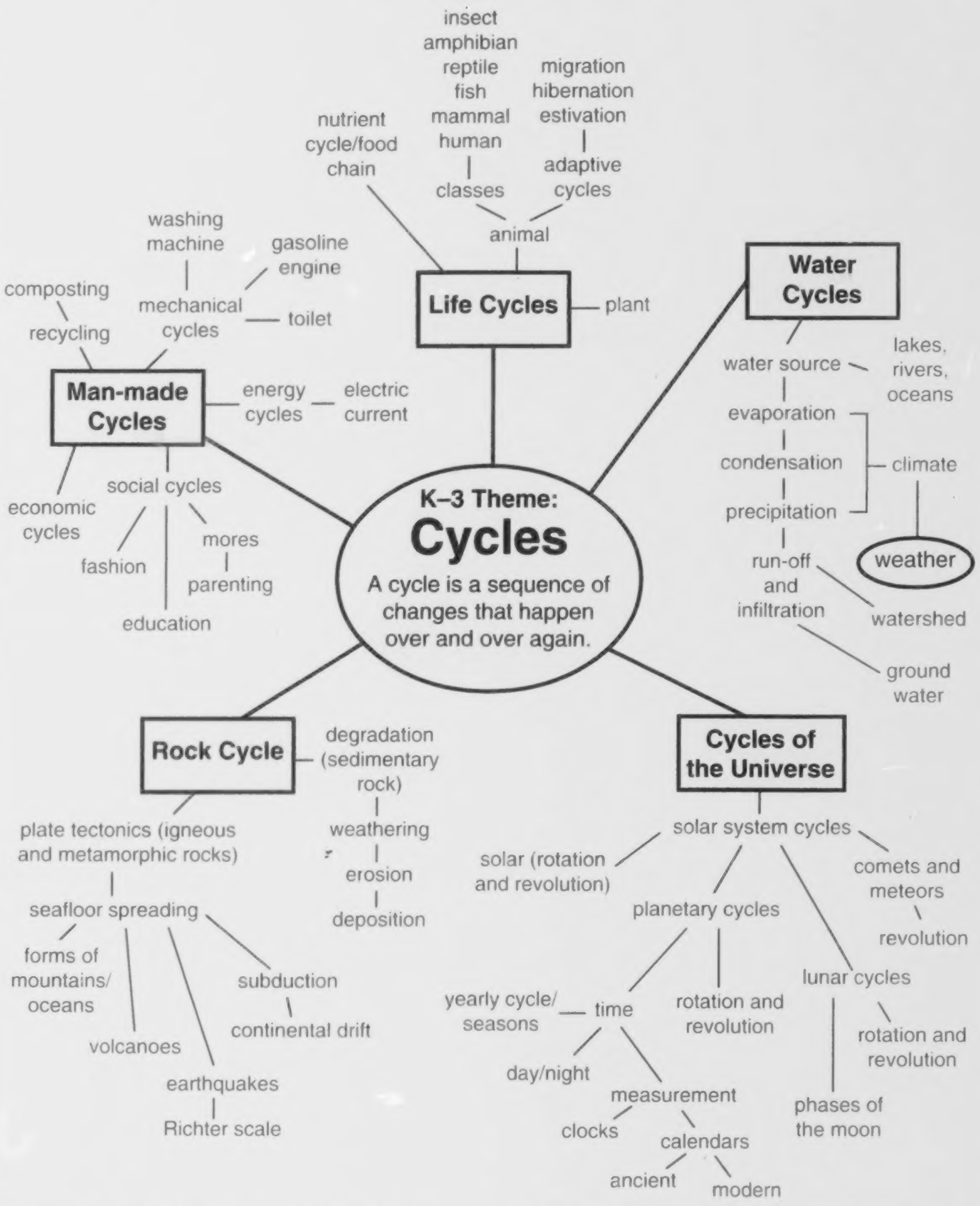
   Community events are rich possibilities for linkage to children's lives. Teachers consider the community context to represent a variety of cultures in the curriculum. For example, a classroom Chinese New Year's parade is appropriate in a community with a Chinese American population in which the event is a part of their lives. However, such a classroom event may lead to simplistic notions of Chinese culture and stereotyping when it is used as an isolated curriculum project in a community with few Chinese Americans and when the parade is not a part of community events (Derman-Sparks and the ABC Task Force 1989).

2. *Does the theme contribute to a balanced curriculum?* Some projects logically lend themselves primarily to one or two disciplines. Content should not be stretched too far just to fit within a theme. Teachers consider the whole year's curriculum to determine whether the themes, as a whole, address all disciplines and standards and allow flexibility for the children's interests to lead to a new area.

   During Rosa's theme on "Families," she observes that the preschoolers' play includes talk about snow. Her revised plans extend the "Families" theme to a unit on "Weather" with activities about snowstorms and experiments with ice cubes (see Figure 6-2, "Theme: Families," and Figure 6-3, "Zoom Web").

   Teachers may collaborate within or across grade levels to develop themes and acquire resources. These learning goals may be arranged in a lesson plan by academic discipline so that interdisciplinary integration and opportunities for intellectual, social, and emotional development are visually displayed. For one example, school staff choose in May a special theme for the whole school to explore during the first month of the next school year. Parents and staff have the summer to collect resources and realia.

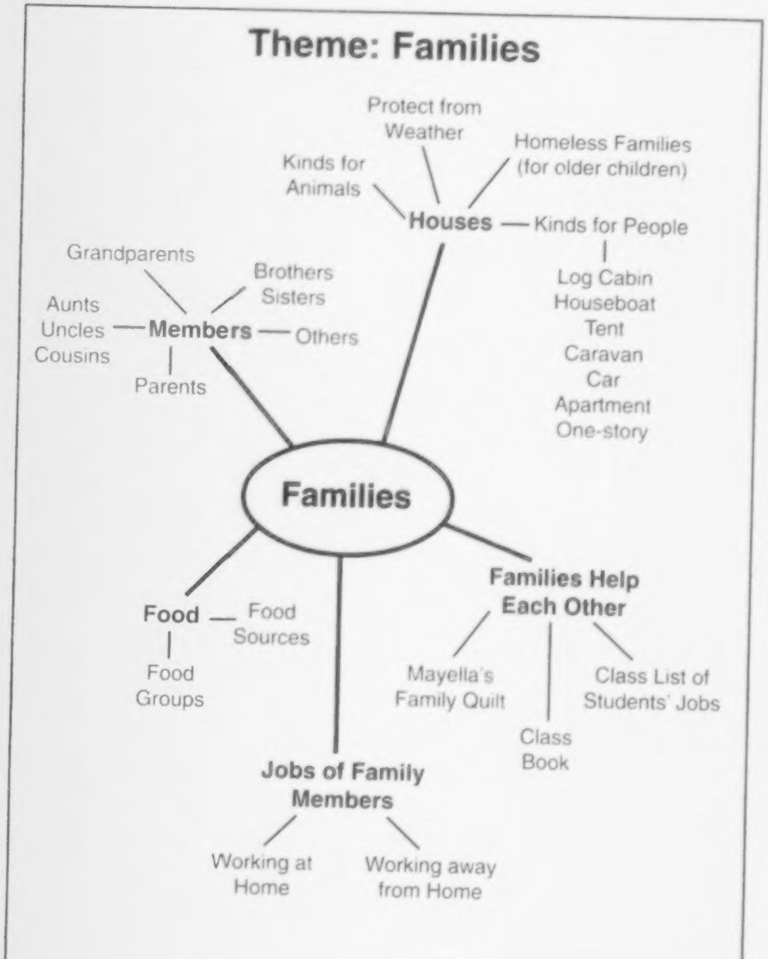
Curriculum Web



Prepared by Jeanne Casella, Principal, Mary E. Silveira Elementary School, San Rafael, California, and by Susan Rounds, Dominican College of San Rafael.

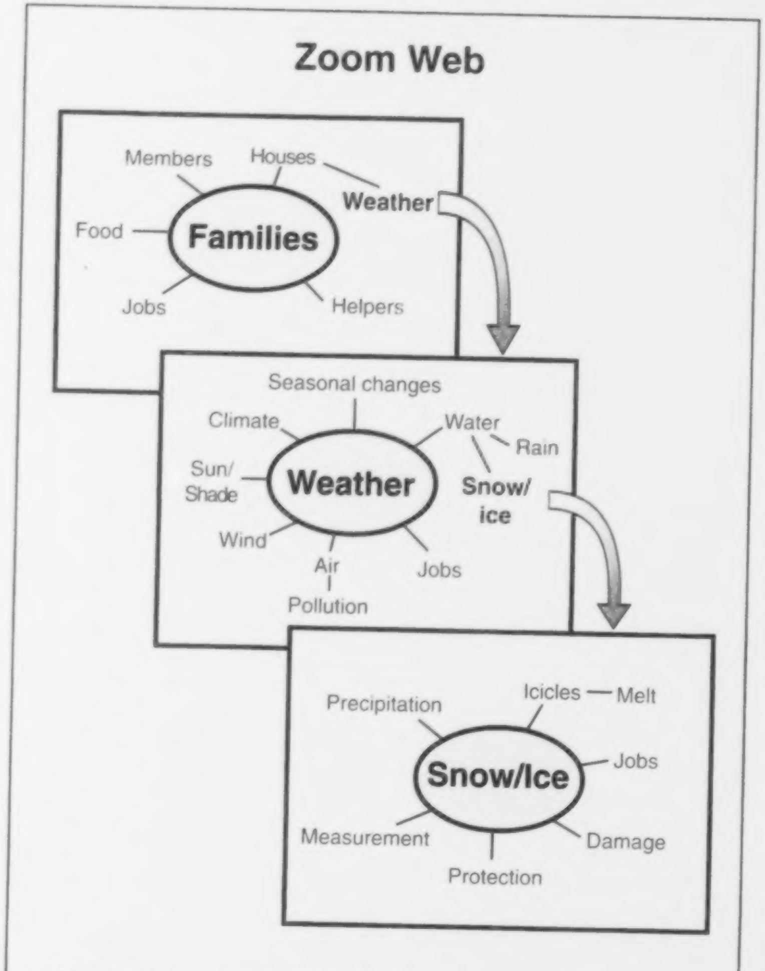
Figure 6-1

BEST COPY AVAILABLE



Prepared by Jeanne Casella, Principal, Mary E. Silveira Elementary School, San Rafael, California, and by Susan Rounds, Dominican College of San Rafael.

Figure 6-2



Adapted from Katz, L. G., and S. C. Chard. 1989. *Engaging Children's Minds: The Project Approach.* Norwood, N.J.: Ablex Publishing Corporation.

Figure 6-3

BEST COPY AVAILABLE

Students share their learning in a culminating cross-grade experience at the end of the first month of school.

3. *Does the theme have value in preparing children for later life?* Teachers should select themes that extend children's learning in important ways. Although a fantasy theme, such as teddy bears, may have relevance for children, it is not an overarching theme that contributes to grade-level standards and therefore may not have much educational potential.

4. *Is there an advantage to studying the theme in school?* Some topics, such as holidays or cartoon characters, are present in children's lives outside of school. Teachers should ask whether precious school time might be better spent on other themes.

   Families of the K/1 students celebrate Hanukkah, Christmas, and Kwanzaa during December. Joe also has students whose religious beliefs forbid the celebration of holidays. He downplays the traditional treatment of holiday themes and instead, under his "Cycles" theme, focuses on how people around the world use light during the winter months. The children make candles, sculpt candlesticks, put on shadow plays, and make a bulletin board display of animals with night vision (Jones and Nimmo 1994).

5. *Is the topic jointly selected by teachers and children?* Teachers should consider whether their "pet" project meshes with the important themes and educational content that children must learn. Ideally, children will have their own experiences and interests to contribute, and themes that combine the teachers' and children's interests will emerge. When teachers incorporate children's ideas into the curriculum, students feel respected and empowered.

Thematic Web

Once a theme has been selected, some teachers prepare a "curriculum web" for planning theme-related activities and each subject area's concepts and skills to be addressed. A web is a mapping of the key ideas, concepts, dispositions, and skills that make up a theme and the major subthemes related to it (see Figures 6-1 and 6-2 for sample webs). A web gives adults and children a chance to explore the possibilities of any idea in order to make decisions about its use. It is a tentative plan (Jones and Nimmo 1994). One way to construct this web is for the teacher to jot down learning goals or ideas on self-stick notes (Katz and Chard 1989). Some ideas are for activities (such as science investigations), dispositions (such as cooperation or initiative), concepts (such as hypothesizing and classifying), and skills (such as lists of new vocabulary words). Some teachers plan the next year's major themes before the school year ends. They use their summer break to acquire needed materials to ensure a succession of learning activities. The school librarian may be of help in locating appropriate materials.

Joe uses the standards and curriculum frameworks to help plan curriculum and activities for his students. Because he wants first graders to end the year with a report on "Measurement Tools in the Community," he plans his themes so that children systematically learn skills they will need. Early in the year, under the theme "Jobs in Our Community," he includes studying beginning number facts, measuring classroom objects using nonstandard and standard measurement standards, writing a letter of request, and participating in share-and-ask time (students respond to classmates' questions about their shared news or item). As part of a subsequent theme "Cycles," he includes skills in dealing with descriptor words, use of Venn diagrams to analyze, recognition of scientific vocabulary, and beginning keyboarding. These and other skills and concepts the children are learning will all be needed for their preparation of a culminating report.

After teachers brainstorm a web, they may produce a second web that organizes the theme ideas by subject area (see Figure 6-4, "Theme Integrated by Subject Area"). Smaller and more specific themes are better suited for preschool and kindergarten children; for example, "Friendships" instead of "Relationships." One technique to help a teacher narrow the focus is "zooming in" on a topic in the web; for example, "Weather" in the "Families" or "Cycles" theme (see Figure 6-3 for a zoom curriculum web). Teachers may also involve students in parts of the brainstorming process. Teachers should compare the brainstormed web with grade-level standards for the various subject areas to determine whether standards are being sufficiently addressed. As activities and lessons take place, teachers may indicate on their lesson plans which ones were successful and the adjustments needed for future teaching (see Figure 6-5, "Preschool Weekly Planning Form").

Phases of Themes

After the initial webbing of concepts, skills, dispositions, and activities, teachers plan the theme to take place in three phases that introduce new knowledge and expand children's thinking.

Phase I—Previous Experiences. Teachers determine the children's previous experiences with the theme by observing play or other activities or by having the children write or tell what they already know about the theme. If a child has no background knowledge, the teacher provides some activity that will lead to awareness.

For the theme "Jobs in our Community," Joe reads stories about dairies. He also stocks a prop box with tools and clothing used in dairy farming. The children contribute to a class KWL chart (students list what they Know, what they Want to know, and what they Learned).

Phase II—New Information. Learning is designed to introduce new information through activities that include direct instruction, field trips, reading, learning centers, classroom visitors, community resources, investigative play, discussion, and other instructional techniques.

Joe's students take a field trip to a dairy and invite two parents to talk about their work. They also represent their field trip experiences in their journals, begin a classification chart on types of machinery, alphabetize a list of dairy vocabulary for a class chart, dictate or write and illustrate a class book of dairy recipes, churn butter, do investigative play with shapes and volumes of dairy containers, read stories that take place on a farm, make a bulletin board display of food products that contain milk, depict the dairy's configuration on a paper map taped to the classroom floor, design puppets for a class play, sing simple farm songs, and learn circle dances associated with farms.

Phase III—Consolidation of Knowledge. Children reflect, consolidate their knowledge, and share their information through culminating projects, which may involve classmates, students from other grade levels, parents, or community members. Teachers record students' efforts through summaries, photographs, videotapes, portfolio work, or other assessment devices. As a reminder for future projects, some teachers have students keep a notebook on the skills and strategies they learn.

To complete the dairy unit, students arrange photographs of their field trip and projects in class albums with captions they prepare on the computer; write thank-you letters to parents and the dairy owner; contribute to a class list of what they learned about dairy farming; and add this material to the class book, "Jobs in Our Community." An end-of-the-year open house held for parents and community members focuses on "Our Community." During this event triads of students give presentations on the various occupations they studied throughout the year.

Integrating Diversity into the Curriculum

All children, including those growing up in homogeneous communities, are aware of differences among themselves, including gender, physical characteristics, family styles, traditions, religious

Theme Integrated by Subject Area

Theme: Families

Language Arts

Make a book about each child's family.

Have the students interview a family member.

Make a chart to compare and contrast types of houses.

Read stories about families.

Make a display of "How I Help at Home."

Dramatize student-made plays about families.

Recite Mother Goose rhymes about family members ("Hush, Little Baby," "This Old Man," "Old Mother Hubbard," "The Pumpkin Eater," or "Three Little Kittens").

Do flannel-board stories ("Here Are Grandmother's Glasses" or "Two Little Houses").

Students volunteer to read at the senior citizens center.

Mathematics

Build houses and count the walls. Graph the number of people at home. Learn home address.

Read *How Many Feet in the Bed?* Hamm (1991) and do mathematics activities such as those in *Math and Literature (K–3)* by M. Burns (1992).

Social Studies

Invite family and community members to talk to the class about their jobs.

Discuss and set up props in the housekeeping center to play "families."

Make a three-dimensional map of Rosie's farm after reading *Rosie's Walk* (1997).

Science

Discuss how the weather affects houses.

List what people do to protect themselves from the weather.

Read about and discuss animal families.

Compare and contrast a reptile family with a mammal family.

Health and Physical Education

Dress in costumes (dramatic play).

Play a circle game (the "Farmer in the Dell" or "Did You Ever See a Lassie?").

Make group charts, by food group, of healthy food that children's families eat.

Arts

Do role playing (This is the way we wash the dishes).

Sing about families ("Where Is Thumbkin?").

Trace bodies and decorate clothing with patterns.

Make a families quilt.

After reading about families in the past, draw pictures showing comparisons of homes, food, school, games, toys, clothing, and travel. Write or dictate sentences for drawings. Publish the children's work as a class book.

Figure 6-4

BEST COPY AVAILABLE

PRESCHOOL WEEKLY PLANNING FORM

(24 children, ages 3 and 4; at times divided into three groups)

INTEGRATED CURRICULUM CHECKLIST:
Music✓ Dance✓ Drama✓ Fine Arts✓ Values Ed.✓
Perceptual Motor✓ Nutrition✓ Health✓ PE✓
Science✓ Math✓ Reading✓ Oral✓ Written✓
Anti-Bias Curriculum✓ History/Social Science✓

Week of March 5-9
Special Focus/Theme: Growing Things/Spring (from last week: Silly Words & Rhymes)
Special Skill (cognitive, social/emotion, physical): seriation, volume, weight
Dispositions: cooperation, respect for differences

OBSERVATIONS/NOTES

Next year, introduce vegetables prior to making a book about them (see Tuesday)

	Monday	Tuesday	Wednesday	Thursday	Friday
Group time (songs, stories, games, books)	(am) Weekend news (small groups) (pm) Dance - Seeds into Flowers Carrot Seed Jamberry Raffi - "In Our Garden"	(am) flannel board - growing people & veggies Three Billy Goats Gruff Blackberry Ink Ella Jenkins chants	Field trip to infant-toddler center When You Were a Baby Baby lullaby - nap time	(am) Sharing - "Something from your house that grew" (small groups) "Oats, Peas, Beans..." Three Billy Goats Gruff re-read & make costumes	Sing silly songs from last week Library Seriate Kids & objects
Special small-group activities	(am) Plant seeds in egg carton (pm) Experiment with pulleys & different size trucks	Make "Growing Vegetables" book (tomatoes, carrots, zucchini, extra paper for made-up veggies)	Baby toys for prop box Brainstorm & chart differences between babies & big kids (pm) dictated stories	Act out Three Billy Goats Gruff Snack - make jelly - bread using "seeds"- strawberries & grapes	(am) Bookmobile - get books on insects (pm) "annoying garden pests" - dictate and draw
Outdoor activities	Begin garden - turn over soil "Old John the Rabbit" vocabulary: boots, hat, rake, hoe, shovel	Add top soil and nutrients to soil plastic hoes & rakes in sandbox	(pm) pulleys "baby play"-crawling, grasping without thumbs Discuss respect for differences	(am) Garden & sing gardening songs (pm) Bug hike with magnifiers "Exploring We Will Go"	(am) Garden Move as various bugs (pm) snacks outside Jenny's birthday

Changes to the environment	**Dramatic Play Center** Garden Store - gloves, hats, seed packets, blankets, picnic baskets set of pots & pans - graduated sizes nesting cups	**Art** pastel colors - paint, Playdough™ (show how adding white makes pastel) Popsicle sticks & glue & garden sheds, fences to keep out rabbits & deer	**Sand and Water** Watering cans outside Sand - sticks, seeds, garden tools, little plastic trees Water - seriation toys
	Blocks pulleys & string big & little trucks cylinders of different sizes - demonstrate stair steps	**Table Toys** Seriation Babushka dolls, 3 Billy Goats Gruff, peg grading board, nesting boxes, cylinder blocks, weighted containers, trucks sorting - seed collection	**Library Corner** Wildflowers garden/insect books silly words & rhymes books Growing thing books on display Writing corner - plain envelopes for making "seed packets"

Target children (for specific strengths)	Encourage Lee T. & Louis out of block corner - little trucks in Table Toys, truck books in Library corner. Special books for Angela (new baby coming) - Peter's Chair, On Mother's Lap Give Anthony private time at Water Table Observe Angela & Richard

BEST COPY AVAILABLE

Developed and adapted by Lyda Beardsly, Trio Foundation, Berkeley, from Dodge and Colker 1992. *The Creative Curriculum for Early Childhood* (Third edition). Washington, D.C.: Teaching Strategies.

Figure 6-5

beliefs, and disabilities. Chapter 4 contains additional information on this topic. Integrating antibiased, multicultural curriculum into the educational program of all children is relevant, reflects the needs and interests of the children, and builds on what children already know. However, it is important not to overestimate what young children can learn and what they need to function capably in their world. An example of overestimation is attempting to teach four-year-olds about "ethnic groups" before the preschoolers have constructed the concept of "group" beyond their family (Derman-Sparks 1992). Derman-Sparks's writings on diversity help teachers understand children's capabilities as well as appropriate classroom activities for achieving a respectful, antibiased program.

Learning about classmates' cultures as a part of class projects demonstrates a respect for each individual. Emphasizing children's similarities unifies students as does reading literature that depicts people of various backgrounds, cultures, ethnicities, and physical abilities.

Young students are especially sensitive to issues of fairness. They may, as individuals or a group, see the need to take some action to ensure fair treatment (Derman-Sparks and the ABC Task Force 1989).

On a field trip to the post office, preschoolers notice the parking sign for the handicapped. After discussing the need for special parking, the students discover that their center's parking lot does not have a parking space for the handicapped. They dictate a letter to request a special space. This activity raises everyone's awareness of the perspectives of people with disabilities.

When children's culture, language, and family circumstances are included in the curriculum, the teacher's sensitivity to individual children is paramount. Many teachers develop a repertoire of understanding about how children of a given culture behave and learn; however, individual children may or may not exhibit the behavior typical for a particular group, and teachers risk stereotyping children and their families if they make generalizations about a culture, no matter how well-intentioned the generalizations might be. Therefore, teachers of young children must combine their understanding of children's and families' varying backgrounds, beliefs, and communication styles with keen sensitivity to each child's uniqueness.

To establish education programs that promote respect for each child's individual, cultural, and linguistic differences, teachers develop programs in which they:

- Treat each child with dignity.
- Get to know each child well.
- Listen to each child and adapt to his or her responses.
- Take time each day to observe individual children and their progress and communicate with families and others about their children's progress.
- Establish relationships with families and communities to better understand the child's life outside of the classroom.
- Welcome family members to the class and involve them in decision making.
- Are alert to signs of stress and know effective strategies to support resilience.
- Are knowledgeable about goals and expectations for a wider spectrum of ages than those of the children in the class.
- Collaborate with specialists on effective strategies for special needs children.
- Engage children, to the extent they are able, in developing rules and procedures for classmates and in solving problems.
- Support children's home culture and language while developing all children's abilities to participate in the shared culture of the program and the community.
- Acknowledge parents' choices and goals without abdicating professional responsibility to children (*Developmentally Appropriate Practice* 1997).

Children perceive that the classroom culture created by the teacher may contradict some aspects of their home culture (Jipson 1991); for example, children take turns speaking. However, by communicating with parents and teaching a curriculum that brings an awareness of the community into the classroom, the teacher helps to successfully create a unifying experience for children. Other ideas for creating a responsive, respectful, and unifying experience are found in Greenberg (1992).

Using Whole-Group Teaching Strategies

Another strategy to create a unifying sense of community that builds classroom culture is the use of whole-group teaching or group-meeting time when children discuss, sing, do phonemic awareness activities, and participate in share-and-ask or other activities. Although whole-group instruction may not always be the best strategy for conveying new information to young children, this strategy is effective for conveying the message, "We are working on this together"; for building a sense of group purpose; and for introducing or summarizing specific concepts and skills in lessons.

Teachers use tasks, such as taking attendance or lunch counts or collecting forms, as opportunities for group tallying and classification that engage children's thinking with real-world mathematics. Children can be responsible for the processes; and although more time may initially be required, they eventually become independent. Teachers' prior analysis of the process can help students understand and remember the steps involved in carrying out the task (Nitschke 1998). Whole-group times are the most effective when each child participates and when short periods for listening and talking are interspersed with times for active participation and movement. Teachers use their judgment about the amount of time for an activity according to children's maturity and their degree of attention. There is no harm in postponing some whole-group activities until later in the day when more children are able to attend.

Providing Special Services

While all children have needs and every child is special, the needs of some children are greater than or different from those of the "typical" child (Chandler 1994). Teachers who understand child development and observe children at work are well situated to identify children who may need special services. Early identification and intervention may ameliorate some special needs. The teacher's ability to communicate effectively with family members fosters intervention and the availability of resources. In this area it is especially necessary for children to experience positive transitions from preschool to elementary school (*Continuity for Young Children* 1997).

In October Rosa observes that Amy, an overweight four-year-old, rarely engages in physical play and is socially isolated. Rosa's observations and the district language specialist's initial assessment of each preschooler show that Amy has trouble articulating sounds and making herself understood. Lacking opportunities for verbal communication and physical participation, Amy retreats into solitary activities. Rosa compiles records of observations and of the speech screening for a meeting with Amy's mother, who agrees to work with a Healthy Start parent adviser on nutrition planning and to allow Amy to work with a speech therapist. Rosa also obtains a scholarship from the local recreation department for Amy to attend a Saturday preschoolers' dance class. Rosa plans classroom activities that enable Amy to practice being a leader in activities emphasizing social/emotional development. By May, Amy has made significant progress with her speech. Dental work on some decaying baby teeth has helped, as has reducing sugar in her diet. Amy has lost several pounds as a result of a healthier diet, and she is developing enough confidence to climb, slide, and ride tricycles. Amy's ability to make herself understood by others produces an explosion of language. She is now sought after as a play companion because of her rich imagination and lively sense of humor.

Nurturing School and Community Partnerships

A substantial and compelling body of evidence has identified parents' participation in their children's education as the most important contributor to students' academic success (*A New Generation of Evidence: The Family Is Critical to Student Achievement* 1994; Thorkildsen and Stein 1998). The research has revealed persuasively that the power of the home to positively influence student achievement exceeds factors such as income level, ethnicity, or parents' educational background. It is noteworthy that parent involvement has been endorsed as an important strategy for school improvement and is a highly visible element in many initiatives and programs, such as Title I, Improving America's Schools Act, Reading Excellence Act, and California Department of Education Child Development programs.

In 1989 and 1994, the California State Board of Education adopted a policy on parental involvement and proposed six priorities for parent involvement programs in schools and districts (*California Strategic Plan for Parental Involvement* 1992). These priorities are as follows:

1. Help parents develop parenting skills and foster conditions at home that support children's efforts in learning.
2. Provide parents with knowledge of techniques designed to assist children in learning at home.
3. Provide access to and coordinate community and support services for children and families.
4. Promote clear, two-way communication between the school and the family regarding the school's programs and children's programs.
5. Involve parents, after appropriate training, in instructional and support roles at the school.
6. Support parents as decision makers and develop their leadership in governance, advisory, and advocacy roles.

These six elements form the basis for planning and implementing comprehensive, ongoing, and well-planned family and school partnerships.

Throughout this document, teachers have been reminded of the importance of involving parents and guardians in their children's education. One resource that is helpful in providing parents with information about the school or child development program is the book *Family-Friendly Communication for Early Childhood Programs* (1996). It contains newsletters about common early childhood practices that agencies and programs may adopt or adapt.

Positive outcomes result when teachers work in partnership with fellow teachers, administrators, parents, and members of the community.[26] Partnership skills grow when the following abilities are nurtured:

- Clarity about preferences—Everyone has beliefs, values, and preferences about ways in which children develop and learn and the adult's role in children's development and learning. All adults involved in the education of young children need skills for reflecting on their own beliefs, values, and preferences.
- Ability to communicate—Adults involved in the care and education of young children must communicate about a wide variety of issues. Experience in communicating about routine matters and an assertive style of communication are helpful when difficult issues must be discussed.
- Ability to negotiate—Negotiation, a skill that can be learned, offers adults a way to reach common ground and identify creative ideas for

---

[26] "Nurturing School/Community Partnerships" was adapted from *Winning Teams™ for Young Children*. It was implemented in Ohio in 1996 and presented at the 1997 National Governors' Association Conference, where it was called a new national model for the education of parents and early childhood professionals. It is being downlinked in several cities and states in the fall of 1998 and the spring of 1999. For more information contact Resources and Instruction for Staff Excellence (RISE), 1 West Fourth Street, Cincinnati, OH 45202; telephone 1-800-971-7413; Web site <http://www.risetraining.org>

resolving differences. It can be applied in all situations—even when the other partner in the negotiation does not have the same skills.

- Willingness to change and learn—A mark of a true professional is a commitment to lifelong learning about new ideas and practices and a continuous expansion of his or her repertoire of skills. Quality programs offer staff and community members opportunities to expand their knowledge about standards, instructional techniques, assessment, collaboration, action research, and other topics that will help them interact with and teach young children.

Service-learning is a particular partnership between school and public or nonprofit agencies that provide service opportunities for students in the community. Recent California research (RPP International 1998) indicates that well-designed and well-implemented service-learning programs can make an important contribution to student learning, civic responsibility, and personal growth; improve school climate; strengthen teacher professionalism and collegiality; and provide valuable services to communities. Two examples of service-learning activities are elementary students reading to and with younger students and talking to and reading with the elderly at a senior citizens' center.

Joe and Rosa continue to discuss teaching and learning, thus learning from each other. The school district administrators, parent council, and school board are proud of the committed, knowledgeable, and professional staff in the early childhood program. Administrators realize that, through ongoing leadership and support for the program, an important message is sent to the community members about the importance of their children and quality early childhood programs. The administration has spread the word in the educational community, and numerous visitors observe the successful early childhood program.

When questioned by observers about the key elements required to develop an early primary education program, Joe and Rosa state characteristically, "One is the commitment to the program by the parents, colleagues, administrators, and school board. Other elements are incorporating into the program the grade-level standards; knowledge of the frameworks; ongoing, shared, and high-quality professional development; and obtaining resources from the school district, county offices of education, local college, California Department of Education, and national resources."

Joe and Rosa acknowledge the importance of linking the educational programs for four-, five-, and six-year-olds. "But," say Joe and Rosa, "our program would not be a success if we did not take the time to incorporate the experiences each child and family brings with them. The challenge for us as teachers of early primary children is to fulfill our mission: to develop students' potential to its fullest academically, socially, emotionally, and physically while we help children to achieve high standards through the knowledge of facts, skills, and concepts and the ability to perform as learning team members. We want children to see themselves as capable learners who have much to contribute to the classroom and to the world. We continue to evaluate our program and to determine its short-term and long-term effects on students. We are mindful of how children learn:

We hear and we forget.
We see and we remember.
We do and we understand."

Appendix A.

Reading

Hallie Kay Yopp

Developing phonemic awareness in young children

Yopp, an Associate Professor in the Department of Elementary and Bilingual Education at California State University, Fullerton, has conducted research and written applied materials on children's acquisition of phonemic awareness.

Most children enter kindergarten with a substantial vocabulary and adequate syntax. In addition, they have a sufficient command of most of the phonemes that constitute their language; that is, they can pronounce most sounds clearly (Singer, 1979). The aspect of language that these young children typically lack, however, is *phonemic awareness*, an understanding that speech is composed of a series of individual sounds. Cat, in other words, is simply cat, a furry animal that purrs. Young children are unaware that the spoken utterance *cat* is a word that is made up of a series of sounds, or phonemes, /k/, /a/, and /t/ (see Adams, 1990, for a thorough discussion of phonemic awareness).

Whether or not a child is phonemically aware can be determined through a variety of tasks (Lewkowicz, 1980; Yopp, 1988). One task requires that the child blend a series of orally presented sounds together to form a word. For instance, given the separate sounds /r/-/u/-/n/, the child should respond with the word *run*. Or, a child might be asked to tell what sound he or she hears at the beginning, middle, or end of a spoken word. What sound do you hear at the end of the word *stop*? What sound do you hear at the beginning of the word *kite*? Another more difficult task requires that the child segment an utterance into its separate sounds. In the example above, given the word *run*, the child would respond "/r/-/u/-/n/." Children who can perform such tasks successfully have control over the smallest units in their speech, phonemes, and they are considered phonemically aware.

Performing phonemic awareness tasks is not easy. The tasks require that children treat speech as an object and that they shift their attention away from the content of speech to the form of speech. Phonemic awareness tasks demand that children analyze or manipulate the units of speech rather than focus on meaning.

Additionally, the very nature of phonemes makes awareness of them difficult (Valtin, 1984). Phonemes are not discrete units in speech but are encoded at the acoustic level into larger units, approximately syllabic size (Liberman, Cooper, Shankweiler, & Studdert-Kennedy, 1967). In short, phonemes are abstract units of speech.

Evidence of this abstract nature of phonemes can be found in that (a) they are not

Yopp, Hallie Kay. (1992, May). Developing phonemic awareness in young children. *The Reading Teacher, 45* (9), 696–703.

Reprinted with permission of Hallie K. Yopp and the International Reading Association. All rights reserved.

marked by physically definable boundaries, and (b) they are highly influenced by phonological context. Gleitman and Rozin (1973) demonstrated the lack of physically definable boundaries in an experiment in which they attempted to isolate the phoneme /d/. The researchers recorded the syllable *di* on tape and then replayed the tape over and over again, cutting off a little bit of the syllable each time. A pure /d/ was never heard. Instead, listeners reported hearing a chirping sound that had no resemblance to normal speech sounds. Henderson (1982) noted how phonemes are influenced by their phonological context. The phoneme /d/, for example, will have a subtly different sound when followed by /oo/ than by /i/. Try saying each of these syllables slowly and note the different position of your tongue for the beginning /d/ sound.

The relationship between phonemic awareness and reading

An alphabetic orthography, such as English, encodes speech at the level of the phoneme. The reader's task is to understand the relationship of the letters in the writing system to the phonemes in the language. This requires that the reader recognize that speech can be segmented into smaller units, that is, that the reader become phonemically aware (Downing, 1979; Downing & Leong, 1982; Mattingly, 1972, 1984). The hypothesis that reading acquisition and phonemic awareness are related has been repeatedly supported by research. The relationship is significant even when intelligence and socioeconomic status are controlled (Goldstein, 1976; Zifcak, 1977).

The relationship between phonemic awareness and learning to read can be interpreted several ways. Two seemingly contradictory hypotheses are (a) that phonemic awareness is a consequence of learning to read, and (b) that phonemic awareness is a prerequisite of learning to read. While some studies support the notion that phonemic awareness is a consequence of exposure to print and formal reading instruction (Ehri, 1979; Read, Yun-Fei, Hong-Yin, & Bao-Qing, 1986), there is also substantial evidence that at least some level of phonemic awareness is a prerequisite for learning to read (Juel, Griffith, & Gough, 1986; Tunmer, Herriman, & Nesdale, 1988; Tunmer & Nesdale, 1985; Yopp, 1985). In fact, the relationship between phonemic awareness and learning to read is most likely one of reciprocal causation (Perfetti, Beck, Bell, & Hughes, 1987) or mutual facilitation (Liberman, Shankweiler, Fischer, & Carter, 1974). In other words, in order to benefit from formal reading instruction, youngsters must have a certain level of phonemic awareness. Reading instruction, in turn, heightens their awareness of language. Thus, phonemic awareness is both a prerequisite for and a consequence of learning to read.

Training of phonemic awareness

Since there is considerable evidence that some level of phonemic awareness is a necessary condition for learning to read, an important question is: Can phonemic awareness be taught, or is it strictly a result of maturation? If the latter is the case, then teachers have little control over their students' levels of phonemic awareness.

> ***In order to benefit from formal reading instruction, youngsters must have a certain level of phonemic awareness. Reading instruction, in turn, heightens their awareness of language. Thus, phonemic awareness is both a prerequisite to and a consequence of learning to read.***

Several studies have addressed this question and have demonstrated that children can indeed be successfully trained in phonemic awareness (Ball & Blachman, 1991; Hohn & Ehri, 1983; Marsh & Mineo, 1977; Williams, 1980; Yopp & Troyer, 1992). These studies have included both young children and learning disabled children, and the findings have indicated that training results in significant increases in phonemic awareness. How this training affects participants' subsequent reading performance was examined by Lundberg, Frost, and Petersen (1988) and Bradley and

Bryant (1983). Each of these studies will be described.

Lundberg et al. (1988) trained 235 kindergartners in 12 different classrooms in Denmark. The children were drawn from a lower socioeconomic working-class population and were 6 years of age. The training consisted of 15 to 20 minute daily sessions that lasted the entire kindergarten year from September to May. The aim of the training was to guide the children to discover and attend to the phonological structure of language through the use of exercises and games. The students in each classroom participated in the activities as a whole group. A control group of 155 children from different kindergarten classrooms was drawn from the same socioeconomic background as the experimental children. These controls participated in the typical kindergarten curriculum in Denmark in which social and esthetic aspects of development are emphasized and formal cognitive and linguistic training are avoided.

All children were pretested on a series of phonemic awareness tasks at the beginning of their kindergarten year. Posttests given at the end of the year revealed that there was a substantial training effect: Children who had received phonemic awareness training progressed in phonemic awareness significantly more than children who had not received such training. Furthermore, this effect was maintained over time. When children were tested again several months later at the beginning of first grade, the trained children still performed significantly better than control children.

What is most interesting is the effect that this training had on reading acquisition. When these children entered first grade, formal reading instruction was introduced. Eight months into the school year, all children were given a reading achievement test. Those children who had received phonemic awareness training in kindergarten significantly outperformed those who had not participated in training. In addition, the trained children were superior spellers.

Bradley and Bryant (1983) also demonstrated that training in phonemic awareness can positively affect reading and spelling achievement. Children 4 and 5 years of age who were nonreaders were pretested on their ability to categorize words on the basis of common sounds. This task involves the identification of the odd word among a set of words. For example, given the words *hill*, *pig*, and *pin*, the child indicates that *hill* is the odd word since *pig* and *pin* both begin with the same sound. Likewise, given the words *doll*, *hop*, and *top*, *doll* is designated as the odd word since *hop* and *top* share a common ending sound. Children who received low scores on this task were matched according to age, verbal intelligence, and score on the sound categorization task. Some of the children then were given intensive training on categorizing words on the basis of initial, medial, and final sounds. This training took place over the course of 2 years and involved 40 individual sessions. Results of subsequent standardized tests revealed that training had a considerable effect on reading and spelling achievement. The authors concluded that awareness of phonemes had a powerful influence on eventual success in learning to read and spell.

Both the Lundberg et al. (1988) and the Bradley and Bryant (1983) studies demonstrate that specific language experiences can be offered to young children that will significantly affect their progress in phonemic awareness and their subsequent reading and spelling acquisition.

Suggestions for teachers

Many of the successful training programs described in the research literature make use of very structured instructional procedures in specialized settings (e.g., Marsh & Mineo, 1977; Williams, 1980) and therefore are impractical for classroom teachers. However, studies such as that by Lundberg et al. (1988) reveal that less formal activities conducted in real classroom settings also result in gains in phonemic awareness and subsequent reading and spelling achievement. Thus, a growing number of reading experts are urging classroom teachers to provide their students with "linguistic stimulation above and beyond speaking and listening during the preschool [and early school] years: storytelling, word games, rhymes, and riddles, and the like" (Mattingly, 1984, p. 24) in order to facilitate the acquisition of phonemic awareness (see also Adams, 1990, and Tunmer & Rohl, 1991). One means of doing this, suggested by Griffith and Olson (1992), is through frequent readings of literature selections that "deal playfully with the sounds of language through rhyme and through the manipulation of phonemes" (p. 520). For instance, when teachers read books with alliterative or assonance patterns to their classes, children may begin to attend to the smaller units of their language.

Other activities such as songs and games that play with language, encourage participation, and leave students feeling successful also are useful in shifting children's attention away from the content of language to its form and can be readily incorporated into preschool, primary grade, and learning-disabled classrooms. Teachers themselves can easily develop such activities. Guidelines for developing phonemic awareness activities are in the next section, followed by a series of examples and general recommendations regarding their use.

Developing phonemic awareness activities

The objective of any phonemic awareness activity should be to facilitate children's ability to perceive that their speech is made up of a series of sounds. It is the breaking down and manipulation of *spoken* language that is of interest. Hence, the focus of activities should be on sounds in the speech stream. There are many different ways to examine and manipulate sounds.

A useful way for the teacher to think about phonemic awareness activities is according to the nature of the task that must be performed. For instance, an activity may require the participant to match words by sounds, isolate a sound in a word, blend individual sounds to form a word, substitute sounds in a word, or segment a word into its constituent sounds. Each of these tasks is related to phonemic awareness (Yopp, 1988). The first step in developing an activity is to identify the precise task on which the teacher wishes to focus, for example, blending separate sounds together to form words.

The next step is to consider a developmentally appropriate means for engaging children in the task. The more playful, game-like, and amusing the activity, the better. Riddles and guessing games are excellent vehicles for drawing children's attention to the smaller aspects of their spoken language. Familiar songs also provide a useful vehicle for phonemic awareness activities, the familiar melody providing a comfortable context for children to sing new lyrics that explore sounds.

Examples of phonemic awareness activities

The examples presented in this article are drawn in part from a series of activities created several years ago to enhance young children's phonemic awareness (Yopp & Ivers, 1988). They have been field tested in many classrooms, and both anecdotal accounts and experimental research (Yopp & Troyer, 1992) indicate that children respond to the activities with enthusiasm and increasing facility. With one activity in particular, significant gains in phonemic awareness were found after only 15 to 20 minutes of daily use for 2 weeks. Children randomly assigned to a control group showed no gains in phonemic awareness (Yopp & Troyer, 1992).

The activities presented here are categorized as follows: sound matching activities, sound isolation activities, sound blending activities, sound addition or substitution activities, and segmentation activities. Teachers may easily modify any of the activities by targeting sounds that are meaningful for their students or discovering other ways of drawing their students' attention to the sounds of their language.

Sound matching activities. One of the easier phonemic awareness tasks is matching sounds. Children are asked to decide which of several words begins with a given sound or to generate a word beginning with a particular sound. To identify a word with a targeted sound, children may be given a series of pictures of familiar objects (e.g., snake, dog, cat) and asked to select the one that begins with the /s/ sound, for example. To generate their own examples of a word beginning with a particular sound, the following simple song may be used. The lyrics are sung to the tune of "Jimmy Cracked Corn and I Don't Care." (Note that the phoneme sound for the letter included in the lyric, /d/ in this case, is sung, not the letter name. This is true for all the songs and rhymes in this section – the children and teacher say the *phoneme sounds*, not the *letter names*.)

Who has a /d/ word to share with us?
Who has a /d/ word to share with us?
Who has a /d/ word to share with us?
It must start with the /d/ sound!

The class sings together; then the teacher may call on individual children to volunteer words that begin with the /d/ sound. Each child's contribution may then be incorporated into the song. If a child responded with "dog," the class could sing the following:

> *Dog* is a word that starts with /d/
> *Dog* is a word that starts with /d/
> *Dog* is a word that starts with /d/
> *Dog* starts with the /d/ sound.

Since the sound, not the letter, is emphasized, children need not know the alphabet in order to be successful at this activity. The lyrics may be adapted, of course, to any sound to which the teacher or children wish to draw attention (e.g., "Who has an /r/ word to share with us?").

Sound isolation activities. In the previous type of activity, the children were told the individual sound and then asked to identify which of a number of words began with the sound or to generate their own examples. Children may also be asked to perform the reverse; that is, they may be given a word and asked to tell what sound occurs at the beginning, middle, or end of the word. The following song encourages students to think about sounds in words. A single sound may be emphasized throughout the entire song, or each verse may focus on a different sound, as in the example which follows. These lyrics are sung to the tune of "Old MacDonald Had a Farm."

> What's the sound that starts these words:
> *Turtle*, *time*, and *teeth*?
> (wait for a response from the children)
> /t/ is the sound that starts these words:
> *Turtle*, *time*, and *teeth*.
> With a /t/, /t/ here, and a /t/, /t/ there,
> Here a /t/, there a /t/, everywhere a /t/, /t/.
> /t/ is the sound that starts these words:
> *Turtle*, *time*, and *teeth*!
>
> What's the sound that starts these words:
> *Chicken*, *chin*, and *cheek*?
> (wait for a response)
> /ch/ is the sound that starts these words:
> *Chicken*, *chin*, and *cheek*.
> With a /ch/, /ch/ here, and a /ch/, /ch/ there,
> Here a /ch/, there a /ch/, everywhere a /ch/, /ch/.
> /ch/ is the sound that starts these words:
> *Chicken*, *chin*, and *cheek*!
>
> What's the sound that starts these words:
> *Daddy*, *duck*, and *deep*?
> (wait for a response)
> /d/ is the sound that starts these words:
> *Daddy*, *duck*, and *deep*.
> With a /d/, /d/ here, and a /d/, /d/ there,
> Here a /d/, there a /d/, everywhere a /d/, /d/.
> /d/ is the sound that starts these words:
> *Daddy*, *duck*, and *deep*!
>
> You all did great, so clap your hands!
> (Clap, clap, clap, clap, clap)

Examples for focusing on medial and final sounds follow:

Medial:

> What's the sound in the middle of these words:
> *Leaf* and *deep* and *meat*?
> (wait for a response)
> /ee/ is the sound in the middle of these words:
> *Leaf* and *deep* and *meat*.
> With an /ee/, /ee/ here, and an /ee/, /ee/ there,
> Here an /ee/, there an /ee/, everywhere an /ee/, /ee/.
> /ee/ is the sound in the middle of these words:
> *Leaf* and *deep* and *meat*!

Final:

> What's the sound at the end of these words?
> *Duck* and *cake* and *beak*?
> (wait for a response)
> /k/ is the sound at the end of these words:
> *Duck* and *cake* and *beak*.
> With a /k/, /k/ here, and a /k/, /k/ there,
> Here a /k/, there a /k/, everywhere a /k/, /k/.
> /k/ is the sound at the end of these words:
> *Duck* and *cake* and *beak*!

Blending activities. Blending requires children to manipulate individual sounds by combining them to form a word. Given a series of isolated sounds (e.g., /b/-/a/-/t/), children blend them together (e.g., "bat"). A motivating blending game is the "What am I thinking of?" game (Yopp & Troyer, 1992). In this activity, the teacher tells the class he or she is thinking of an animal, for example. (Any category may be used, perhaps correlated with a current unit or instructional theme.) The teacher then gives a clue—the separate sounds in the word. If the teacher was thinking of a cow, he or she tells the class that the animal is a "/k/-/ow/," articulating each of the sounds separately. The children, then, must blend the sounds together to discover the animal the teacher has in mind.

To increase the motivation the teacher may use picture cards and face them away from the children, give the segmented clue, then turn the picture around once the children have guessed. Or, the teacher may make use of a toy box or grab bag, peeking inside and saying, "I see a toy /d/-/u/-/k/ in here. Who knows what I see?"

The lyrics to the song "If You're Happy and You Know It, Clap Your Hands" can be adapted in order to provide another blending activity.

> If you think you know this word, shout it out!
> If you think you know this word, shout it out!

BEST COPY AVAILABLE

If you think you know this word,
Then tell me what you've heard,
If you think you know this word, shout it out!

(Teacher says a segmented word such as /k/-/a/-/t/, and children respond by saying the blended word.)

The verse may be repeated numerous times with the teacher changing the stimulus item as desired. Eventually, individual children will be able to contribute the segmented sounds for their peers to blend.

Sound addition or substitution activities. Adding or substituting sounds in words in familiar songs may also help children begin to focus on the sounds that make up their speech. For example, the section of the song "I've Been Working on the Railroad" that begins "Someone's in the kitchen with Dinah" lends itself beautifully to sound additions and substitutions. "Fe-Fi-Fiddly-i-o" can become "Be-Bi-Biddly-i-o" or "Ke-Ki-Kiddly-i-o" and so on. Children may insert consonant sounds, blends, or diphthongs, as follows (sung according to the lyrics "Someone's in the kitchen with Dinah"):

I have a song that we can sing
I have a song that we can sing
I have a song that we can sing
It goes something like this:

Fe-Fi-Fiddly-i-o
Fe-Fi-Fiddly-i-o-o-o-o
Fe-Fi-Fiddly-i-ooooo
Now try it with the /z/ sound!

Ze-Zi-Ziddly-i-o
Ze-Zi-Ziddly-i-o-o-o-o
Ze-Zi-Ziddly-i-ooooo
Now try it with the /br/ sound!

Bre-Bri-Briddly-i-o
Bre-Bri-Briddly-i-o-o-o-o
Bre-Bri-Briddly-i-ooooo
Now try it with the /ch/ sound!

Che-Chi-Chiddly-i-o
Che-Chi-Chiddly-i-o-o-o-o
Che-Chi-Chiddly-i-ooooo
Che-Chi-Chiddly-i-o!

The same type of substitutions may be done with the "Ee-igh, ee-igh, oh!" sections in "Old MacDonald Had a Farm." For example, "Ee-igh, ee-igh, oh!" may be sung as "Bee-bigh, bee-bigh, boh!" or "See-sigh, see-sigh, soh!" and so forth.

Sounds may be substituted in many songs familiar to the students. The "Happy Birthday" song, for example, may be sung as "Bappy Birthday bo boo" or simply as a repetition of a particular syllable (e.g., "Pa pa papa pa pa") which changes periodically. Children may repeatedly sing the syllable "La" to the tune of the "Happy Birthday" song for the entire song; then the teacher may ask students to suggest another initial sound (e.g., "Tata tata ta ta") or another final sound ("Lele lele le le" or "Lolo lolo lo lo"). We have found that students enjoy singing silly lyrics to familiar tunes, and that they spontaneously contribute sound variations.

The teacher may ask children to select a "Sound of the Day" (e.g., /t/) and then say each of their names with that sound in place of the first sound. Peter will be called "Teter," Billy will be called "Tilly," and Harry will be called "Tarry." The teacher may take attendance this way and may want to encourage each child to experiment with saying his or her classmates' names with the sound of the day.

Segmentation activities. Segmenting the sounds in a word is one of the more difficult of phonemic awareness tasks to perform (Yopp, 1988), yet it is highly related to later success in decoding words. Segmenting refers to the act of isolating the sounds in a spoken word. One activity to begin working toward full segmentation is to have children segment just the first sound in a word. Iteration, or sound repetition activities, may be useful. I recall singing a song as a youngster in which the first sound of several words was repeated. The song began as follows: "When the m-moon shines over the c-cowshed..." Children will have fun repeating sounds while speaking or singing and, at the same time, will begin to gain an understanding of the smaller units of speech. Popular songs may be modified by the teacher to include iterations. For instance, when singing "Pop Goes the Weasel," the teacher may encourage the children to sing "P-p-p-p-POP goes the weasel!" for the final line in the song.

This iterating technique may be used with children's names as well. For example, Catherine may be said as "C-C-C-Catherine," Joe may be said as "J-J-J-Joe," and so forth. Or sounds may be drawn out and exaggerated as a way to draw attention to them. Linda becomes "Llllllllll-inda," Olivia becomes "Ooooooo-livia," and Sam becomes "Sssssss-am."

Children who are successful at each of the preceding activities may be able to successfully perform a complete segmentation task in which each sound in a spoken word is separated from the others. The following example, sung to the tune of "Twinkle, Twinkle, Little

Star," requires children to segment entire words.

Listen, listen
To my word
Then tell me all the sounds you heard: *race*
(slowly)
/r/ is one sound
/ā/ is two
/s/ is last in *race*
It's true.

Listen, listen
To my word
Then tell me all the sounds you heard: *coat*
(slowly)
/k/ is one sound
/ō/ is two
/t/ is last in *coat*
It's true.

Thanks for listening
To my words
And telling all the sounds you heard!

When working with the segmentation of entire words, it is best to use words of no more than three sounds (phonemes). Segmentation tasks are quite difficult for young children, and so the stimulus items should be kept as simple as possible. The lyrics of "Twinkle, Twinkle, Little Star" are structured to accommodate words with three phonemes, but they are easily adapted for words with only two sounds:

> ***The teacher should allow for and be prepared for individual differences. Research on phonemic awareness reveals a tremendous variation among children.***

Listen, listen
To my word
Then tell me all the sounds you heard: *go*
(slowly)
/g/ is one sound
/ō/ is two
And that is all in *go*
It's true.

General recommendations for phonemic awareness activities

The following recommendations regarding the use of phonemic awareness activities with young children are based on current understanding of developmentally appropriate activities for young children (National Association for the Education of Young Children, 1986):

1. The experiences should help develop positive feelings toward learning. There should be a sense of playfulness and fun as children engage in these phonemic awareness activities. The teacher should avoid drill and rote memorization activities.

2. The activities should be conducted in group settings that encourage interaction among children. Children enjoy the social aspects of learning and often learn from one another. Language play is most appropriate in a social setting.

3. The teacher should encourage children's curiosity about language and their experimentation with it. Children's attempts at manipulating language should be responded to positively and enthusiastically.

4. The teacher should allow for and be prepared for individual differences. Research on phonemic awareness reveals tremendous variation among children. Some young children will catch on quickly to the activities; others will show an emerging understanding of the relationship between the sounds in the activities and their use in running speech; and still others will find the activities completely nonsensical but delightful.

5. The teacher should avoid making rigid judgments about individual children based upon their ability to respond to these activities. These activities are not intended to serve as diagnostic tools, although they will provide information about your students. Make sure the tone of the activities is not evaluative but rather fun and informal.

A final guideline concerns the use of visual cues. Written words or letters, for example, may be used if appropriate. Indeed, there is evidence that attaching the visual symbols to the oral stimulus results in greater gains in phonemic awareness in second semester kindergartners who knew the alphabet letters (Hohn & Ehri, 1983). However, the activities presented here are intended to stimulate phonemic awareness in younger children as well. Since many preschoolers or beginning kindergartners will not have been exposed to the alphabet, the use of written letters may distract students from the intent of the activity. Teachers are encouraged to use strictly oral activities with these younger children.

A final comment

Phonemic awareness is strongly related to success in beginning reading and can be developed in children as early as their preschool years through a variety of stimulating language activities. These activities, however, are not intended to replace children's interactions with meaningful language and print. Reading aloud, developing language experience charts, using big books and predictable books, and the like are invaluable reading experiences. The activities presented here are intended to *supplement* such experiences and to provide a means of drawing children's attention to a critical aspect of their language – its phonemic base. Teachers of young children should recognize the important role they can play in contributing to their students' phonemic awareness by spending a few minutes daily engaging their students in oral activities that emphasize the sounds of language. Research suggests that such activities can maximize their students' potential to have a successful experience learning to read.

References

Adams, M. (1990). *Beginning to read: Thinking and learning about print.* Cambridge, MA: MIT Press.

Ball, E., & Blachman, B. (1991). Does phoneme segmentation training in kindergarten make a difference in early word recognition and developmental spelling? *Reading Research Quarterly, 26*, 49-86.

Bradley, L., & Bryant, P. (1983). Categorizing sounds and learning to read—A causal connection. *Nature, 301*, 419-421.

Downing, J. (1979). *Reading and reasoning.* New York: Springer-Verlag.

Downing, J., & Leong, C. (1982). *Psychology of reading.* New York: Macmillan.

Ehri, L. (1979). Linguistic insight: Threshold of reading acquisition. In T. Waller & G. MacKinnon (Eds.), *Reading research: Advances in theory and practice* (Vol. 1, pp. 63-114). New York: Academic Press.

Gleitman, L., & Rozin, P. (1973). Teaching reading by the use of a syllabary. *Reading Research Quarterly, 8*, 447-483.

Goldstein, D. (1976). Cognitive-linguistic functioning and learning to read in preschoolers. *Journal of Educational Psychology, 68*, 680-688.

Griffith, P., & Olson, M. (1992). Phonemic awareness helps beginning readers break the code. *The Reading Teacher, 45*, 516-523.

Henderson, L. (1982). *Orthography and word recognition in reading.* San Francisco: Academic Press.

Hohn, W., & Ehri, L. (1983). Do alphabet letters help prereaders acquire phonemic segmentation skill? *Journal of Educational Psychology, 75*, 752-762.

Juel, C., Griffith, P., & Gough, P. (1986). Acquisition of literacy: A longitudinal study of children in first and second grade. *Journal of Educational Psychology, 78*, 243-255.

Lewkowicz, N. (1980). Phonemic awareness training: What to teach and how to teach it. *Journal of Educational Psychology, 72*, 686-700.

Liberman, A., Cooper, F., Shankweiler, D., & Studdert-Kennedy, M. (1967). Perception of speech code. *Psychological Review, 74*, 431-461.

Liberman, I., Shankweiler, D., Fischer, F., & Carter, B. (1974). Explicit syllable and phoneme segmentation in the young child. *Journal of Experimental Child Psychology, 18*, 201-212.

Lundberg, I., Frost, J., & Petersen, O. (1988). Effects of an extensive program for stimulating phonological awareness in preschool children. *Reading Research Quarterly, 23*, 263-284.

Marsh, G., & Mineo, R. (1977). Training preschool children to recognize phonemes in words. *Journal of Educational Psychology, 69*, 748-753.

Mattingly, I. (1972). Reading, the linguistic process, and linguistic awareness. In J. Kavanagh & I. Mattingly (Eds.), *Language by ear and by eye* (pp. 133-147). Cambridge, MA: MIT Press.

Mattingly, I. (1984). Reading, linguistic awareness, and language acquisition. In J. Downing & R. Valtin (Eds.), *Language awareness and learning to read* (pp. 9-25). New York: Springer-Verlag.

National Association for the Education of Young Children. (1986). Position statement on developmentally appropriate practice in programs for 4- and 5-year-olds. *Young Children, 41*(6), 20-29.

Perfetti, C., Beck, I., Bell, L., & Hughes, C. (1987). Phonemic knowledge and learning to read are reciprocal: A longitudinal study of first grade children. *Merrill-Palmer Quarterly, 33*, 283-319.

Read, C., Yun-Fei, Z., Hong-Yin, N., & Bao-Qing, D. (1986). The ability to manipulate speech sounds depends on knowing alphabetic writing. *Cognition, 24*, 31-44.

Singer, H. (1979). Language, linguistics, and learning to read. In H. Singer (Ed.), *Reading, learning to read* (pp. 34-41). Victoria, BC: Deakin University.

Tunmer, W., Herriman, M., & Nesdale, A. (1988). Metalinguistic abilities and beginning reading. *Reading Research Quarterly, 23*, 134-158.

Tunmer, W., & Nesdale, A. (1985). Phonemic segmentation skill and beginning reading. *Journal of Educational Psychology, 77*, 417-427.

Tunmer, W., & Rohl, M. (1991). Phonological awareness and reading acquisition. In D. Sawyer & B. Fox (Eds.), *Phonological awareness in reading: The evolution of current perspectives* (pp. 1-30). New York: Springer-Verlag.

Valtin, R. (1984). Awareness of features and functions of language. In J. Downing & R. Valtin (Eds.), *Language awareness and learning to read* (pp. 227-260). New York: Springer-Verlag.

Williams, J. (1980). Teaching decoding with an emphasis on phoneme analysis and phoneme blending. *Journal of Educational Psychology, 72*, 1-15.

Yopp, H. (1985). Phoneme segmentation ability: A prerequisite for phonics and sight word achievement in beginning reading? In J. Niles & R. Lalik (Eds.), *Issues in literacy: A research perspective* (pp. 330-336). Rochester, NY: National Reading Conference.

Yopp, H. (1988). The validity and reliability of phonemic awareness tests. *Reading Research Quarterly, 23*, 159-177.

Yopp, H., & Ivers, K. (1988). Songs and activities for enhancing phonemic awareness. Unpublished manuscript.

Yopp, H., & Troyer, S. (1992). *Training phonemic awareness in young children.* Unpublished manuscript.

Zifcak, M. (1977). *Phonological awareness and reading acquisition in first grade children.* Unpublished doctoral dissertation, University of Connecticut.

BEST COPY AVAILABLE

TEACHING READING

Read-aloud books for developing phonemic awareness: An annotated bibliography

Hallie Kay Yopp

The relationship between phonemic awareness and learning to read is extremely important (Stanovich, 1994). In fact, recent research suggests that phonemic awareness may be the "most important core and causal factor separating normal and disabled readers" (Adams, 1990, p. 305). A critical question, then, is how do children become phonemically aware? Studies reveal that the ability to segment and otherwise manipulate sounds in speech can be explicitly taught to children and that those children who receive training in phonemic awareness perform at higher levels on subsequent reading and spelling achievement tests than their control group counterparts (Ball & Blachman, 1988; Bradley & Bryant, 1983; Cunningham, 1990; Lundberg, Frost, & Peterson, 1988).

Phonemic awareness may also be facilitated in a less direct, but perhaps more natural and spontaneous way, by providing children with language-rich environments in which attention is often turned to language itself by means of word play in stories, songs, and games. Classroom teachers are in the ideal position to capitalize on what Geller's (1982a, 1982b, 1983) observations reveal as children's natural propensity to experiment with sounds in their language. Geller recommends that teachers observe children's play with speech sounds and design activities that stimulate this play, arguing that word play enables children to explore and experiment with systems of sound separate from their meanings and that this has implications for literacy learning. Other researchers have also encouraged teachers to provide their young students with activities that are linguistically stimulating—activities such as word games, rhymes, riddles, and songs (Adams, 1990; Mattingly, 1984; Yopp, 1992).

Probably the most accessible, practical, and useful vehicles to enhance students' sensitivity to the phonological basis of their language are children's books that deal playfully with speech sounds through rhyme, alliteration, assonance, or other phoneme manipulation (Griffith & Olson, 1992). The purpose of this article is to provide teachers with an annotated bibliography of children's literature that draws attention to language sounds and so may be useful in facilitating the acquisition of phonemic awareness.

Criteria for selection

The following three criteria were used for inclusion of books in this bibliography:

1. Play with language is explicit and is a critical, dominant feature of the books so that children are encouraged to shift their focus from the message of the text to the language that is used to communicate the message. Only books that make very obvious use of rhyme, alliteration, assonance, phoneme substitution, or segmentation are included.

2. The books are appropriate for young children. Neither the vocabulary nor the story lines are too advanced for most kindergarten children or first graders. For example, though S. Kellogg's (1987) *Aster Aardvark's Alphabet Adventures* (Morrow Junior Books) makes clever use of alliteration, the vocabulary and content are rather sophisticated: "Entering an elite eating establishment escorted by an enormously eminent elephant..." Thus, the book is inappropriate for this list.

3. The books easily lend themselves to further language play. Their patterns are explicit, their structures readily accessible, and their content simple enough that the stories can be extended.

How to use these books

- Read and reread the story

Read the story aloud several times simply for the pure joy of reading and sharing.

- Comment on the language use

After several readings, teachers may encourage students to comment about the story. Teachers may ask "Did you enjoy the book? Was it fun? What was fun about it?" and let the children discover for themselves that the word play added tremendous entertainment to the story. Or teachers may chuckle at several points in a rereading and say "That was funny! Did you notice how those words rhyme?" or "Did you notice how the character got all mixed up in what he was saying?" and gently guide children's attention to the word play.

- Encourage predictions

Most of these stories are very predictable. Teachers should encourage their students to predict sounds, words, or phrases and then ask the students how they arrived at their predictions. Generally, the answer will address the author's use of language: "He's making the words rhyme!" "She's starting everything with the same sound!"

- Examine language use

Depending upon the children, teachers may wish to examine more closely the language use in a story. Teachers may explicitly point out and analyze phonemic features. With younger children (perhaps ages 3 to 5), simply commenting on the language is likely most appropriate: "Those words start alike! That's silly that the author did that! Listen: kitten, cape, coat." With older children (perhaps ages 4 to 7), closer examinations may be fruitful: "What

Yopp, Hallie Kay. (1995, March). Teaching reading: Read-aloud books for developing phonemic awareness: An annotated bibliography. *The Reading Teacher, 48* (6), 538–542. Reprinted with permission of Hallie K. Yopp and the International Reading Association. All rights reserved.

Annotated bibliography

Brown, M.W. (1993). *Four fur feet*. New York: Doubleday.
In this simple book, the reader is drawn to the /f/ sound as the phrase "four fur feet" is repeated in every sentence as a furry animal walks around the world. The same pattern is used throughout the story as we see four fur feet walk along the river, into the country, and so forth. The book must be turned around as the animal makes its way around the world.

Buller, J., & Schade, S. (1988). *I love you, good night*. New York: Simon and Schuster.
A mother and child tell each other how much they love one another. When the child says she loves her mother as much as "blueberry pancakes," the mother responds that she loves her child as much as "milkshakes." The child says she loves the mother as much as "frogs love flies," to which the mother responds she loves her child as much as "pigs love pies." The two go back and forth in this manner until "good night" is said. The rhyme invites the listener to participate and continue the story.

Cameron, P. (1961). *"I can't," said the ant*. New York: Coward-McCann.
Household items discuss the fall of a teapot from the counter in a kitchen and the means by which to put it back. In a series of brief contributions to the conversation, each item says something that rhymes with its own name. "'Don't break her,' said the shaker" and "'I can't bear it,' said the carrot."

Carle, E. (1974). *All about Arthur (an absolutely absurd ape)*. New York: Franklin Watts.
Arthur, an accordion playing ape who lives in Atlanta, feels lonely and travels from Baltimore to Yonkers making friends. In each city he makes a friend whose name matches the initial sound of the city, from a banjo-playing bear in Baltimore to a young yak in Yonkers.

Carter, D. (1990). *More bugs in boxes*. New York: Simon and Schuster.
This pop-up book presents a series of questions and answers about make-believe bugs who are found inside a variety of boxes. Both the questions and answers make use of alliteration: "What kind of bug is in the rosy red rectangle box? A bright blue big-mouth bug." Following a similar pattern is the author's *Jingle bugs* (1992, Simon and Schuster), which has a Christmas theme and makes use of rhyme: "Who's in the chimney, warm and snug? Ho, ho, ho! It's Santa Bug!"

de Regniers, B., Moore, E., White, M., & Carr, J. (1988). *Sing a song of popcorn*. New York: Scholastic.
A number of poems in this book draw attention to rhyme and encourage children to experiment. Also included are poems that play with sounds within words. In "Galoshes" the author describes the slippery slush "as it slooshes and sloshes and splishes and sploshes" around a child's galoshes. In "Eletelephony" sounds are mixed up and substituted for one another: "Once there was an elephant,/Who tried to use the telephant...."

Deming, A.G. (1994). *Who is tapping at my window?* New York: Penguin.
A young girl hears a tapping at her window and asks, "Who is there?" The farm animals each respond, "It's not I," and she discovers that it is the rain. The book is predictable in that each pair of animals rhymes. The loon responds, followed by the raccoon. The dog's response is followed by the frog's.

Ehlert, L. (1989). *Eating the alphabet: Fruits and vegetables from A to Z*. San Diego, CA: Harcourt Brace Jovanovich.
Fruits and vegetables are offered in print and pictures for each letter of the alphabet in this book. The following are displayed for B, for instance: blueberry, brussels sprout, bean, beet, broccoli, banana.

Emberley, B. (1992). *One wide river to cross*. Boston: Little, Brown.
This Caldecott Honor Book is an adaptation of the traditional African-American spiritual about Noah's ark. Through the use of rhyme, the author describes the animals gathering on board one by one (while "Japhelth played the big bass drum"), two by two ("The alligator lost his shoe"), and so on up to ten, when the rains begin.

Fortunata. (1968). *Catch a little fox*. New York: Scholastic.
A group of children talk about going hunting, identifying animals they will catch and where they will keep each one. A frog will be put in a log, a cat will be put in a hat, and so forth. The story concludes with the animals in turn capturing the children, putting them in a ring and listening to them sing. All are then released. The music is included in this book. A different version of this story that includes a brontosaurus (who is put in a chorus) and armadillo (who is put in a pillow) is J. Langstaff's (1974) *Oh, a-hunting we will go*, published by Atheneum, New York.

Galdone, P. (1968). *Henny Penny*. New York: Scholastic.
A hen becomes alarmed when an acorn hits her on the head. She believes the sky is falling, and on her way to inform the king she meets several animals who join her until they are all eaten by Foxy Loxy. This classic story is included here because of the amusing rhyming names of the animals. A recent release of this story is S. Kellogg's *Chicken Little* (1985), published by Mulberry Books, New York.

Geraghty, P. (1992). *Stop that noise!* New York: Crown.
A mouse is annoyed with the many sounds of the forest and implores the cicada to stop its "zee-zee-zee-zee," the frog to stop its "woopoo," until it hears far more disturbing sounds—the "Brrrm" and "Crrrrrr RACKA-DACKA-RACKA-SHOONG" of a bulldozer felling trees. The presentation of animal and machine sounds makes this book useful in drawing attention to the sounds in our language.

Gordon, J. (1991). *Six sleepy sheep*. New York: Puffin Books.
Six sheep try to fall asleep by slurping celery soup, telling spooky stories, singing songs, sipping simmered milk, and so on. The use of the /s/ sound, prevalent throughout, amuses listeners as they anticipate the sheep's antics.

Hague, K. (1984). *Alphabears*. New York: Henry Holt.
In this beautifully illustrated book, 26 teddy bears introduce the alphabet and make use of alliteration. Teddy bear John loves jam and jelly. Quimbly is a quilted bear, and Pam likes popcorn and pink lemonade.

(continued)

Annotated bibliography (cont'd.)

Hawkins, C., & Hawkins, J. (1986). *Tog the dog*. New York: G.P. Putnam's Sons.

This book tells the story of Tog the dog who likes to jog, gets lost in the fog, falls into a bog, and so forth. With the exception of the final page, where the letters *og* appear in large type, the pages in the book are not full width. As the reader turns the narrower pages throughout the text a new letter appears and lines up with the *og* so that when Tog falls into the bog, for example, a large letter *b* lines up with *og* to make the word *bog*. This is a great book for both developing phonemic awareness and pointing out a spelling pattern. Also by the authors are *Jen the hen* (1985), *Mig the pig* (1984), and *Pat the cat* (1993), all published by G.P. Putnam's sons.

Hymes, L., & Hymes, J. (1964). *Oodles of noodles*. New York: Young Scott Books.

Several of the poems in this collection make use of nonsense words in order to complete a rhyme. In "Oodles of Noodles," the speaker requests oodles of noodles because they are favorite foodles. In "Spinach," the authors list a series of words each beginning with the /sp/ sound until they finally end with the word "spinach." Words include "spin," "span," "spun," and "spoony." Many of the poems point out spelling patterns that will be entertaining with an older audience.

Krauss, R. (1985). *I can fly*. New York: Golden Press.

In this simple book, a child imitates the actions of a variety of animals. "A cow can moo. I can too." "I can squirm like a worm." The rhyming element combined with the charm of the child's imaginative play makes the story engaging. On the final page, nonsense words that rhyme are used, encouraging listeners to experiment with sounds themselves: "Gubble gubble gubble I'm a mubble in a pubble."

Kuskin, K. (1990). *Roar and more*. New York: HarperTrophy.

This book includes many poems and pictures that portray the sounds that animals make. Both the use of rhyme and presentation of animal sounds ("Ssnnaaaarrll" for the tiger, "Hsssssss..." for the snake) draw children's attention to sounds. An earlier edition of this book won the 1979 NCTE Award for Excellence in Poetry for Children.

Lewison, W. (1992). *Buzz said the bee*. New York: Scholastic.

A series of animals sit on top of one another in this story. Before each animal climbs on top of the next, it does something that rhymes with the animal it approaches. For instance, the hen dances a jig before sitting on the pig. The pig takes a bow before sitting on the cow.

Martin, B. (1974). *Sounds of a powwow*. New York: Holt, Rinehart, & Winston.

Included in this volume is the song "K-K-K-Katy" in which the first consonant of several words is isolated and repeated, as is the song title.

Marzollo, J. (1989). *The teddy bear book*. New York: Dial.

Poems about teddy bears adapted from songs, jump rope rhymes, ball bouncing chants, cheers, and story poems are presented. Use of rhyme is considerable, from the well known, "Teddy bear, teddy bear, turn around, Teddy bear, teddy bear, touch the ground" to the less familiar, "Did you ever, ever, ever in your teddy bear life see a teddy bear dance with his wife?" and the response, "No I never, never, never...." Play with sounds is obvious in the poem "Teddy Boo and Teddy Bear" where the author says, "Icabocker, icabocker, icabocker, boo! Icabocker, soda cracker, phooey on you!"

Obligado, L, (1983). *Faint frogs feeling feverish and other terrifically tantalizing tongue twisters*. New York: Viking.

For each letter of the alphabet, one or more tongue twisters using alliteration is presented in print and with humorous illustrations. *S* has smiling snakes sipping strawberry sodas, a shy spider spinning, and a swordfish sawing. *T* presents two toucans tying ties, turtles tasting tea, and tigers trying trousers.

Ochs, C.P. (1991). *Moose on the loose*. Minneapolis, MN: Carolrhoda Books.

A moose escapes from the zoo in the town of Zown and at the same time a chartreuse caboose disappears. The zookeeper runs throughout the town asking citizens if they've seen a "moose on the loose in a chartreuse caboose." No one has seen the moose but each has seen a different animal. Included among the many citizens is Ms. Cook who saw a pig wearing a wig, Mr. Wu who saw a weasel paint at an easel, and Mrs. Case who saw a skunk filling a trunk. Each joins in the search.

Otto, C. (1991). *Dinosaur chase*. New York: HarperTrophy.

A mother dinosaur reads her young one a story about dinosaurs in which "dinosaur crawl, dinosaur creep, tiptoe dinosaur, dinosaur seek." Both alliteration and rhyme are present in this simple, colorful book.

Parry, C. (1991). *Zoomerang-a-boomerang: Poems to make your belly laugh*. New York: Puffin Books.

Nearly all of the poems in this collection play with language, particularly through the use of predictable and humorous rhyme patterns. In "Oh my, no more pie," the meat's too red, so the writer has some bread. When the bread is too brown, the writer goes to town, and so forth. In "What they said," each of 12 animals says something that rhymes with its name. For instance, a pup says, "Let's wake up," and a lark says, "It's still dark."

Patz, N. (1983). *Moses supposes his toeses are roses*. San Diego, CA: Harcourt Brace Jovanovich.

Seven rhymes are presented here, each of which plays on language to engage the listener. Rhyme is predictable in "Sweetie Maguire" when she shouts "Fire! Fire!" and Mrs. O'Hair says, "Where? Where?" Alliteration makes "Betty Botter" a tongue twister: "But a bit of better butter-that will make my batter better!" Assonance adds humor to "The tooter" when the tooter tries to tutor two tooters to toot!

Pomerantz, C. (1993). *If I had a paka*. New York: Mulberry.

Eleven languages are represented among the 12 poems included in this volume. The author manipulates words as in "You take the blueberry, I'll take the dewberry. You don't want the blueberry, OK take the bayberry...." Many berries are mentioned, including a novel one, the "chuckleberry." Attention is drawn to phonemes when languages other than English are introduced. The Vietnamese translation of the following draws attention

(continued)

Annotated bibliography (cont'd.)

to rhyme and repetition: I like fish, Toy tik ka; I like chicken, Toy tik ga; I like duck, Toy tik veet; I like meat, Toy tik teet.

Prelutsky, J. (1982). *The baby Uggs are hatching*. New York: Mulberry.

Twelve poems describe unusual creatures such as the sneepies, the smasheroo, and the numpy-numpy-numpity. Although some of the vocabulary is advanced (the Quossible has an irascible temper), most of the poems will be enjoyed by young children who will delight in the humorous use of words and sounds. For instance, "The Sneezysnoozer sneezes in a dozen sneezy sizes, it sneezes little breezes and it sneezes big surprises."

Prelutsky, J. (1989). *Poems of A. Nonny Mouse*. New York: Alfred A. Knopf.

A Nonny Mouse finally gets credit for all her works that were previously attributed to "Anonymous" in this humorous selection of poems that is appropriate for all ages. Of particular interest for developing phonemic awareness are poems such as "How much wood would a woodchuck chuck" and "Betty Botter bought some butter."

Provenson, A., & Provenson, M. (1977). *Old Mother Hubbard*. New York: Random House.

In this traditional rhyme, Old Mother Hubbard runs errand after errand for her dog. When she comes back from buying him a wig, she finds him dancing a jig. When she returns from buying him shoes, she finds him reading the news.

Raffi. (1987). *Down by the bay*. New York: Crown.

Two young children try to outdo one another in making up rhymes with questions like, "Did you ever see a goose kissing a moose?" and "Did you ever see a bear combing his hair?" Music is included.

Raffi. (1989). *Tingalayo*. New York: Crown.

Here the reader meets a man who calls for his donkey, Tingalayo, and describes its antics through the use of rhyme and rhythm. Phrases such as "Me donkey dance, me donkey sing, me donkey wearin' a diamond ring" will make children laugh, and they will easily contribute additional verses to this song/story.

Sendak, M. (1990). *Alligators all around: An alphabet*. New York: HarperTrophy.

Using alliteration for each letter of the alphabet, Sendak introduces the reader to the alphabet with the help of alligators who have headaches (for *H*) and keep kangaroos (for *K*).

Shaw, N. (1989). *Sheep on a ship*. Boston: Houghton Mifflin.

Sheep sailing on a ship run into trouble when facing a sudden storm. This entertaining story makes use of rhyme (waves lap and sails flap), alliteration (sheep on a ship), and assonance ("It rains and hails and shakes the sails").

Showers, P. (1991). *The listening walk*. New York: HarperTrophy.

A little girl and her father go for a walk with their dog, and the listener is treated to the variety of sounds they hear while walking. These include "thhhhh...", the steady whisper sound of some sprinklers, and "whithh whithh," the sound of other sprinklers that turn around and around. Some phonemes are elongated as in "eeeeeeeyowwwoooo...," the sound of a jet overhead. Some phonemes are substituted as in "bik bok bik bok," the sounds of high heels on the pavement.

Silverstein, S. (1964). *A giraffe and a half*. New York: HarperCollins.

Using cumulative and rhyming patterns, Silverstein builds the story of a giraffe who has a rose on his nose, a bee on his knee, some glue on his shoe, and so on until he undoes the story by reversing the events.

Staines, B. (1989). *All God's critters got a place in the choir*. New York: Penguin.

This lively book make use of rhyme to tell of the places that numerous animals (an ox and a fox, a grizzly bear, a possum and a porcupine, bullfrogs) have in the world's choir. "Some sing low, some sing higher, some sing out loud on the telephone wire."

Seuss, Dr. (1963). *Dr. Seuss's ABC*. New York: Random House.

Each letter of the alphabet is presented along with an amusing sentence in which nearly all of the words begin with the targeted letter. "Many mumbling mice are making midnight music in the moonlight...mighty nice."

Seuss, Dr. (1965). *Fox in socks*. New York. Random House.

Before beginning this book, the reader is warned to take the book slowly because the fox will try to get the reader's tongue in trouble. Language play is the obvious focus of this book. Assonance patterns occur throughout, and the listener is exposed to vowel sound changes when beetles battle, ducks like lakes, and ticks and clocks get mixed up with the chicks and tocks.

Seuss, Dr. (1974). *There's a wocket in my pocket*. New York: Random House.

A child talks about the creatures he has found around the house. These include a "nooth grush on my tooth brush" and a "zamp in the lamp." The initial sounds of common household objects are substituted with other sounds to make the nonsense creatures in this wonderful example of play with language.

Tallon, R. (1979). *Zoophabets*. New York: Scholastic.

Letter by letter the author names a fictional animal and, in list form, tells where it lives and what it eats. All, of course, begin with the targeted letter. "Runk" lives in "rain barrels" and eats "raindrops, rusty rainbows, ripped rubbers, raincoats, rhubarb."

Van Allsburg, C. *The Z was zapped*. Boston: Houghton Mifflin.

A series of mishaps befall the letters of the alphabet. *A* is crushed by an avalanche, *B* is badly bitten, *C* is cut to ribbons, and so forth. Other alphabet books using alliteration include G. Base's *Animalia* (1987), published by Harry N. Abrams, K. Greenaway's (1993) *A apple pie*, published by Derrydale, and J. Patience's (1993) *An amazing alphabet*, published by Random House.

Winthrop, E. (1986). *Shoes*. New York: HarperTrophy.

This rhyming book surveys familiar and some not-so-familiar types of shoes. The book begins, "There are shoes to buckle, shoes to tie, shoes too low, and shoes too high." Later we discover, "Shoes for fishing, shoes

(continued)

Annotated bibliography (cont'd.)

for wishing, rubber shoes for muddy squishing." The rhythm and rhyme invite participation and creative contributions.

Zemach, M. (1976). *Hush, little baby*. New York: E. P. Dutton.

In this lullaby, parents attempt to console a crying baby by promising a number of outrageous things including a mockingbird, a diamond ring, a billy goat, and a cart and bull. The verse is set to rhyme, e.g., "If that cart and bull turn over, Poppa's gonna buy you a dog named Rover," and children can easily innovate on the rhyme and contribute to the list of items being promised.

sound do you hear at the beginning of all those words? Yes—the /k/ sound. Isn't it interesting how the author uses so many words with the /k/ sound? What are some other words that begin with that sound?"

- Create additional verses or make another version of the story

Children can change the story yet maintain the language pattern to develop their own versions of the story. My 3½ year-old son enjoyed listening to *"I Can't," Said the Ant* (Cameron, 1961) and after the first reading began reciting chunks of the story retaining the dialog but changing the speaker. For instance, instead of the author's "'Don't break her!' said the shaker," Peter prefers to say "'Don't break her,' said the baker." He is quite amused by his changes in the story and insists that we read it his way.

After reading *Zoophabets* (Tallon, 1979) each child may wish to make his/her own *Zoophabets* book by drawing pictures of nonsense animals and dictating words to the teacher; or each student could be responsible for a particular letter sound and make a single page of the alphabet book to be included in a class compilation.

After reading *More Bugs in Boxes* (Carter, 1990), children can make their own "open the flap" book with drawings of interesting bugs hidden away under each flap. Each bug represents a particular sound. The child who chooses /s/ may decide to draw six laughing bugs who are looking off to the side and dictate, "six silly bugs looking sideways." Or instead of making a book, children may actually construct boxes, make three dimensional bugs, and have fun naming them: "carrot-eating, colorful cucumber bugs!"

A final note

The children with whom I have read these books quickly responded to both the form of the language and the content of the text. The books stimulated experimentation with sounds, and children readily, enthusiastically, and often spontaneously innovated on the patterns provided.

Of course, this type of book should not be read to the exclusion of other works of children's literature. Books of this nature should, however, be included in the classroom repertoire of reading experiences, since they can serve as a means to help young children attend to and play with the phonemes in their language.

Yopp teaches reading and language arts courses at California State University, Fullerton, California, USA.

References

Adams, M.J. (1990). *Beginning to Read: Thinking and learning about print*. Cambridge, MA: MIT Press.

Ball, E., & Blachman, B. (1988). Phoneme segmentation training: Effect on reading readiness. *Annals of Dyslexia, 38*, 208-225.

Bradley, L., & Bryant, P. (1983). Categorizing sounds and learning to read—A causal connection. *Nature, 301*, 419-421.

Cunningham, A.E. (1990). Explicit versus implicit instruction in phonemic awareness. *Journal of Experimental Child Psychology, 50*, 429-444.

Geller, L.G. (1982a). Grasp of meaning in children: Theory into practice. *Language Arts, 59*, 571-579.

Geller, L.G. (1982b). Linguistic consciousness-raising: Child's play. *Language Arts, 59*, 120-125.

Geller, L.G. (1983). Children's rhymes and literacy learning: Making connections. *Language Arts, 60*, 184-193.

Griffith, P.L., & Olson, M.W. (1992). Phonemic awareness helps beginning readers break the code. *The Reading Teacher, 45*, 516-523.

Lundberg, I., Frost, J., & Peterson, O. (1988). Effects of an extensive program for stimulating phonological awareness in preschool children. *Reading Research Quarterly, 23*, 263-284.

Mattingly, I. (1984). Reading, linguistic awareness, and language acquisition. In J. Downing & R. Valtin (Eds.), *Language awareness and learning to read* (pp. 9-25). New York: Springer-Verlag.

Stanovich, K.E. (1994). Romance and reality. *The Reading Teacher, 47*, 280-291.

Yopp, H.K. (1992). Developing phonemic awareness in young children. *The Reading Teacher, 45*, 696-703.

BEST COPY AVAILABLE

Maximizing Literacy in the Classroom

Materials and activities for the areas listed below contribute to the development of literacy in children.

House or Dramatic Play Area

Materials

1. Grocery ads
2. Labels where materials go
3. Mailbox
4. Menu
5. Place mats with words
6. Recipe cards, cookbook
7. Telephone book
8. Telephone message pad

Activities

1. Use sentence strips to record student dialogue and dramatize later in day
2. Each week a different parent brings empty, clean food containers representing foods from a child's culture. (The containers are tossed on Friday.)

Art Area

Materials

1. Booklets of writing paper near photos
2. Labels
3. Pictures about stories read to children
4. Prints of artwork of master artists
5. Stencils

Activities

1. Cut and paste from magazines.
2. Dictate stories.
3. Make a letter collage.
4. Paint on newspapers printed in various languages.
5. Write children's names on papers and add a photo of each child with name.

Area for Check-in or Whole-Group Participation

Materials

1. Bulletin board with picture and name of each child (Magnetic strip below the board has children's names for them to use whenever they need to.)
2. Clipboard for daily survey

Activities

1. Have the children do activities with their names to teach letters and sounds.
2. Have the children sign in.
3. Show photographs of choice-time activities.
4. Use the daily news for interactive writing.

Library

Materials

1. Child-designed book covers
2. Posters

Activities

1. Have the children write about books they have read (or were read to them).
2. Have the children write their own books.
3. Provide library cards to sign.

Science

Materials

1. Books on science topics
2. Children's magazines on animals and other science topics
3. Experiment cards

Activities

1. Chart plant growth.
2. Label materials and objects.
3. Provide pictures and simple words for directions.

Mathematics

Materials

1. Designs with pattern blocks that children try to reproduce
2. Individualized cooking recipes
3. Literature on mathematics topic
4. Clipboards for mathematics surveys
5. Charts of students' birthdates
6. Children's illustrations showing numerals and writing (e.g., 10 mittens, 8 candies, 100 buttons)

Activities

1. Have the children keep math journals in which they write their mathematical ideas.
2. Have the children, as a group, do a block journal, which shows their illustrations of the stages in the construction of a block building.

Playground

Materials

1. Colored chalk to write letters
2. Direction signs ("Inside," "Swings," and so forth)
3. Letter squares on blacktop
4. Map of U.S. with states' names
5. Name of game printed on cement
6. Stop and Go signs
7. Water cans and paintbrushes for eight

Activities

1. Paint alphabet with water on cement.
2. Write alphabet letter forms in the sandbox.
3. Use playground for writing about nature study.

Authors' Note: Thanks to California preschool and kindergarten teachers, who contributed to this list.

LITERACY
RESEARCH PAPER

VOLUME 10

Learning and Using Phonics in Beginning Reading

John Shefelbine

The role of phonics in learning to read has been the subject of considerable controversy for well over a hundred years (Adams, 1990; Diack, 1965). Three decades ago we had the "great debate" between advocates of phonics and proponents of "look-say" (Chall, 1967). Currently, many educators and parents continue to divide approaches to reading instruction into two camps—phonics and "whole language."

Because of the intensity of the feelings and rhetoric around this topic, it is tempting to think of the argument as phonics versus no phonics. But that would be a simplistic summary of the major issues, which are far more subtle and complex.

Both in the past—during the Dick and Jane era, for example—and today, most reading programs include at least some phonics. It's true of basal reading programs; just look at all the phonics listed in any scope-and-sequence chart. It's also true of the language experience approach, where students take words from a word bank and group them by spelling sound patterns (Stauffer, 1980). And it's definitely true of whole language, where students are encouraged to discover spelling-sound relationships by sounding out unfamiliar words as they engage in meaningful writing activities (Goodman, 1986). Some proponents of whole language advocate having students actively look for words that begin or end with certain sounds during the shared reading of big books (Holdaway, 1979).

The real debate over phonics is instructional.

So if the so-called debate is not one of

From *Scholastic Literacy Research Paper* Vol. 10. Copyright ©1995 by Scholastic Inc. Reprinted by permission.

phonics versus no phonics, then what's all the fuss about? It's about what *kind* of instructional content and approach is necessary and sufficient, particularly for the 20 percent or more of a class who typically experience serious difficulty in learning to read (Stedman and Kaestle, 1987).

Although there is agreement on the general value of at least some knowledge of phonics, there still exist substantially different views on what content needs to be taught, when, in what manner, and for what purposes. In other words, interpretations of what constitutes adequate or good phonics instruction vary dramatically.

"If the so-called debate is *not one of phonics versus no phonics, then what's all the fuss about?"*

Both advocates and critics of phonics need to be aware of these qualitative differences. Advocates must be knowledgeable enough to judge phonics programs critically and not embrace any program as long as it's labeled "phonics." Critics must move beyond a narrow view of phonics as stacks of worksheets and endless drills and recognize that there are other forms of phonics instruction that are effective. Clearly, some standards for comparing and evaluating different approaches to the teaching of phonics are needed.

We should be clear about what phonics is—and isn't.

Before we go further, let's talk about what phonics is—and isn't. Phonics is not the same as phonetics. Phonetics is an area of linguistics that involves the study of sounds in *speech*. Its focus is on oral language, not print. Phonics, on the other hand, involves the relationship between sounds in speech (phonological patterns) and spelling patterns (orthographic patterns). Notice that this definition stresses the sounds of spelling patterns rather than individual letters. This is because the sounds of letters—particularly vowels—depend upon their position in the word (we versus wet), adjacent letters (cat versus cent and coat versus coop), or the presence of what are sometimes called "markers" (mad versus made) (Venezky, 1970).

What is the best way to teach phonics? Phonics instruction should be systematic and thorough enough to enable most students to become independent and fluent readers, yet still efficient and streamlined. It should not overshadow an abundance of engaging experiences with reading and listening to books and writing for a variety of purposes. In making the case for this balanced view of the role of phonics in reading development, we need to look at phonics instruction from three vantage points:

- why phonics is useful
- which skills are worth learning—and when
- how phonics skills and strategies should be taught.

Phonics is useful for figuring out unknown words.

It's generally acknowledged that students can use three types of cues when reading unknown words: semantic, syntactic, and graphophonic. Semantic and syntactic cues involve using meaning and grammatical structure to predict what a word may be—in other words, using context. Graphophonic cues entail the use of the sounds of spelling patterns—using phonics.

"Phonics instruction should be *systematic and thorough enough to enable most students to become independent and fluent readers, yet still efficient and streamlined."*

Although there is agreement that students use all three types of cues, approaches to beginning reading instruction differ substantially in the amount of emphasis placed on each. Proponents of whole language and language experience encourage students to use contextual cues first and foremost and rely on graphophonic information only as necessary (Weaver, 1990). Adherents of Reading Recovery place equal emphasis on all three cues (Clay, 1985).

There is growing evidence for giving phonics at least equal weight as a beginning reading strategy. Eye-movement studies reviewed by Adams (1990) indicate that skilled readers do not primarily use context; instead, they quickly process virtually all the letters in a word. In fact, it's the poorer readers who characteristically depend heavily on context as a decoding strategy (Stanovich, 1980). Furthermore, studies of beginning reading (reviewed by Juel, 1991) support three stages of reading acquisition:

- *a selective-cue stage,* in which beginning readers pay much more attention to context than to graphic information
- *a spelling-sound stage,* where spelling-sound strategies are a preferred strategy
- *an automatic stage,* where students essentially become fluent readers.

Students must pass through the spelling-sound stage to become successful readers, and it is here that phonics instruction can play a crucial role. Phonics is an essential strategy for figuring out unknown words.

Phonics also helps develop phonemic awareness and spelling skills.

Decoding skills are not the only benefits derived from phonics instruction. It also contributes to developing phonemic awareness—the understanding of the phonemes (distinctive sounds) that occur in spoken words. A child with phonemic awareness can count the sounds in words (*stick* has four); combine, or blend, sounds to make a word ("mmmaaannn" is *man*); and manipulate sounds (*stick* without /s/ is *tick*). A large number of studies reviewed by Ehri (1991) indicate that students must develop phonemic awareness to pass through the spelling-sound stage that leads to fluency.

Although phonemic awareness can be taught orally, combining it with phonics instruction is more efficient and powerful (Adams, 1990). One well-known study found that using letters to represent sounds improved the effectiveness of phonemic-awareness training (Bradley and Bryant, 1983), perhaps because oral tasks are more abstract, whereas using letters makes the content more concrete.

One of the least contested findings of studies of phonics and early reading is that phonics improves spelling ability (Chall, 1967). Formal instruction in phonemic awareness and spelling-sound relationships significantly increases the rate with which students progress through the developmental stages of learning to spell (Tangel and Blachman, 1992).

> **"One of the least contested findings** *of studies of phonics and early reading is that phonics improves spelling ability."*

Phonics instruction should follow a developmental continuum.

What phonics should be taught is an important question because enthusiastic proponents tend to teach more than may be necessary—both in content and instructional time—whereas less committed teachers cover too little. To answer the question, what is needed is a developmental continuum that begins with rhyming in kindergarten and ends with syllabication in third grade.

The development of knowledge of spelling-sound relationships starts in kindergarten—and for many children, even earlier—when students begin to learn consonant sounds and develop phonemic awareness through nursery rhymes and word play. By the end of second grade, students should be familiar with the common relationships that apply to single-syllable words, as well as to some two- and three-syllable words. Formal instruction for most students should be over by the end of third grade, if not earlier.

For students having difficulty, interventions should differ across grade levels. In first grade, focus on short vowels, common consonants and consonant digraphs, and blending for single-syllable words. In second grade, vowel patterns and generalizations may need to be emphasized, again for single-syllable words. In third grade, syllabication and structural analysis are usually the problem areas.

This continuum, which is supported in part by a study by Venezky and Johnson (1973), is important because it helps us take a commonsense approach to phonics instruction. For example, it's useless to focus on polysyllabic words when students cannot read single-syllable words. For similar reasons, it's a waste of time to worry about blending when students can read single-syllable words without difficulty and are ready to learn syllabication strategies.

Within this continuum, teachers should consider four areas: high-utility spelling-sound relationships; teaching vowels as well as consonants; blending; and strategies for reading polysyllabic words—areas that are frequently ignored.

• ***High-utility spelling-sound relationships.*** A recent study examined the vowel patterns found in the 1,000 most frequently used one-syllable words in print. Results indicate that the utility of the most frequently occurring vowel spelling-sound relationships is quite high—above 80 percent. Furthermore, a relatively small number of patterns are particularly powerful because they apply to so many words. The short vowels and the final *e* generalization—the so-called "silent *e*"—accounted for more than 50 percent of the one-syllable words in the study (Shefelbine, 1994).

Such information makes it possible to streamline phonics instruction by concentrating on the most useful content. When selecting spelling-sound relationships, avoid patterns that are relatively rare (such as *ey* in *they* or *eigh* in *eight*), are inconsistent (such as *ie* in *pie, field,* and *friend;* or *ough* in *though, thought,* and *through*), and are simply not true a majority of the time (such as "when two vowels go walking, the first one does the talking"—but not in *boy, moon,* and *out*).

• ***Teaching vowels along with consonants.*** Some approaches to phonics instruction emphasize consonants over and before vowels because consonants are more consistent and supposedly more important. Evidence to support this contention is lacking, in spite of our ability to read sentences in which vowels have been omitted: for example, _ l_k_ t_ r_ _d b_ _ks. As skilled readers, we have a well-developed knowledge of spelling patterns that enables us to decipher the words. Beginning readers lack this knowledge and often find the task very frustrating.

One reason students with decoding difficulties are more likely to have problems with vowel patterns (Harris and Sipay, 1990) may well be that vowels typically receive less attention. There are two major advantages to introducing some vowels along with consonants: blending can be modeled and applied when students know all the sounds in a word; and students are encouraged to go beyond a first- (and sometimes last-) consonant-plus-context strategy, which is more characteristic of the selective-cue stage than the spelling-sound stage.

- ***Blending.*** Blending should not be confused with *blends*, which refers to consonant clusters such as *cr*, *str*, and *fl*. Blending involves combining all the sounds in a word—vowels as well as consonants—in order to recognize the word. This is a critical component of both phonemic awareness and phonics and needs to be explicitly taught to students who have difficulty developing it on their own (Adams, 1990; Ehri, 1991). Blending can be modeled and practiced orally, as well as when reading and spelling. It's done by holding, or prolonging, continuous sounds—such as /m/, /s/, and /f/—but not /t/, /p/, and /c/, which are "stop" sounds. The teacher then moves on to the next sound without pausing (Carnine, Silbert, and Kameenui, 1990). For example, fish would be "ffffffiiiiiishshshshshsh."

- ***Syllabication.*** A frequently ignored area of phonics instruction involves students' ability to read words with more than one syllable. Adams (1990) notes that skilled readers effortlessly read polysyllabic words by focusing on their syllables. Yet Shefelbine, Lipscomb, and Hern (1989) found that students who were successful readers of single-syllable words were not necessarily good at reading polysyllabic words. There is demonstrated value in teaching students to decode or recognize common syllabic units, as well as spelling patterns in which a vowel is or is not at the end of a syllable—for example, *oh* versus *ho* (Shefelbine, 1990).

There are several current issues involving how phonics can best be taught. This final section examines some critical issues related to phonics instruction: (a) the nature and role of systematic instruction; (b) the importance of emphasizing connected reading and meaning; (c) what is meant by teaching strategies "in context"; and (d) the importance of providing reading materials that enable students to apply the phonic strategies they have learned.

- ***The nature and role of systematic instruction.*** What is systematic phonics instruction? Characteristics vary but tend to include the following:
  - — short but frequent teacher-led lessons
  - — the introduction, review, and application of an initially limited but growing set of spelling-sound relationships (rather than working on the entire alphabet at once)
  - — instruction in blending
  - — correlated work in spelling (students read what they can spell and spell what they can read).

How important is systematic phonics instruction? Research indicates it's very important. A consistent finding in an ample body of research is that successful reading programs contain explicit, systematic instruction in phonics that covers letter sounds and blending (Adams's review of beginning reading programs [which included Chall's 1967 reviews], 1990; the USOE Cooperative Research Program; Project Follow Through; and a quantitative synthesis by Pflaum, Walberg, Karegaines, and Rasher, 1980). In other words, it's not enough to give students a smattering of phonics. A systematic approach promotes success for beginning readers.

"A consistent finding *in an ample body of research is that successful reading programs contain explicit, systematic instruction in phonics that covers letter sounds and blending."*

• ***Emphasizing connected reading and meaning.*** Successful beginning reading programs have children do a lot of reading for meaning. Students read a substantial amount of connected text—such as stories—which they're expected to comprehend (Adams, 1990). Instead of the traditional debate between "phonics first" and "meaning first," this and the previous finding argue for a more balanced "both first" approach to beginning reading instruction. It's certainly a commonsense conclusion, since phonics without extensive amounts of reading practice is of limited value, and reading for meaning is difficult without the development of phonemic awareness and independent decoding strategies.

There are at least two ways of attending to both meaning and phonics: have students start off reading meaningful, predictable books at the same time that they receive systematic phonics instruction; and offer reading materials that enable students to apply the phonics strategies they're learning.

• ***Teaching strategies in context.*** Though it's widely recommended that skills and strategies be taught in context, it's not always clear what constitutes "in context." Many teachers interpret it to mean teaching sounds by using words in stories that are read with students during shared reading (Holdaway, 1979). Yet there are problems with using such an approach *exclusively.* If only a limited number of sounds and spellings have been learned, it may be difficult to find enough examples in a story to give the students much practice. For students to appreciate the value of phonics strategies, they need to apply them to words that they don't already know or can't be easily predicted in text (Durkin, 1989). Also, students benefit from word play, which allows them to experiment with spelling patterns by changing various parts and noting similarities and differences (Moffett and Wagner, 1983).

A reasonable approach to teaching skills in context is to begin with skills in the context of a story, poem, or rhyme; then proceed to word play (in which blending can also be practiced); and, finally, apply the skill in the context of a new text selection.

• ***Applying strategies in new stories.*** When reading stories that are predictable or contain high-frequency words, beginning first graders typically don't know enough phonics to be able to decipher many words independently. Because their knowledge doesn't seem useful, they may underrate its value and develop less appropriate strategies (such as memorizing stories). When students are given some stories in which a majority of the words are decodable by using the phonics they already know, they more readily apply phonics strategies to all kinds of reading (Juel and Roper-Schneider, 1985). Teachers need to look for stories that combine decodable words with some sight words and some predictable words to encourage students to use their knowledge of spelling-sound relationships.

Above all, teachers must take an informed, commonsense approach to phonics instruction.

We began this paper by making the point that phonics has long been a source of debate among researchers. But for the good of their students, many classroom teachers have confidently and wisely chosen to stay out of the fray. They know that keen observation, common sense, and good judgment are their most reliable tools for helping students learn to read. It is by observing students and determining what kinds of strategies and support they need to reach fluency that teachers ensure success for beginning readers. Adams (1990), Chall (1967), and others repeatedly have determined that the classroom teacher is as important a factor in students' learning to read as any program of instruction. Other studies emphasize that a teacher's interest in and commitment to a program of instruction are crucial (Pflaum, Walberg, Karegaines, and Rasher, 1980). Every good teacher knows these findings intuitively.

> "Teachers must draw on *their own good judgment and avoid a feast-or-famine approach to phonics instruction."*

That's why teachers must draw on their own good judgment and avoid a feast-or-famine approach to phonics instruction. Balance, as they know, is the key.

REFERENCES

Adams, M.J. (1990). *Beginning to read: Thinking and learning about print.* Cambridge: Massachusetts Institute of Technology.

Bradley, L., and Bryant, P.E. (1983). Categorizing sounds and learning to read—a causal connection. *Nature,* 30, 419–421.

Carnine, D., Silbert, J., and Kameenui, E.J. (1990). *Direct instruction in reading.* 2d ed. Columbus, OH: Merrill.

Chall, J.S. (1967). *Learning to read: The great debate.* New York: McGraw-Hill.

Clay, M.M. (1985). *The early detection of reading difficulties.* 3rd ed. Portsmouth, NH: Heinemann.

Diack, H. (1965). *The teaching of reading in spite of the alphabet.* New York: Philosophical Library.

Durkin, D. (1989). *Teaching them to read.* 5th ed. Boston: Allyn and Bacon.

Ehri, L.C. (1991). Development of the ability to read words. In R. Barr, M. Kamil, P. Mosenthal, and P.D. Pearson, eds., *Handbook of reading research. Volume II* (pp. 383–417). New York: Longman.

Goodman, K. (1986). *What's whole in whole language?* Toronto: Scholastic.

Harris, A.J., and Sipay, E.R. (1990). *How to increase reading ability: A guide to developmental and remedial methods.* 9th ed. New York: Longman.

Holdaway, D. (1979). *Foundations of literacy.* New York: Ashton Scholastic.

Juel, C. (1991). Beginning reading. In R. Barr, M. Kamil, P. Mosenthal, and P.D. Pearson, eds., *Handbook of reading research, Volume II* (pp. 759–788). New York: Longman.

Juel, C., and Roper-Schneider, D. (1985). The influence of basal readers on first grade reading. *Reading Research Quarterly,* 20, 134–152.

Moffett, J., and Wagner, B.J. (1983). *Student-centered language arts and reading, K–13: A handbook for teachers.* Boston: Houghton Mifflin.

Pflaum, S.W., Walberg, H.J., Karegaines, M.L., and Rasher, S.P. (1980). Reading instruction: A quantitative analysis. *Educational Researcher,* 9, 12–18.

Shefelbine, J. (1990). A syllabic-unit approach to teaching decoding of polysyllabic words to fourth- and sixth-grade disabled readers. In J. Zutell and S. McCormick, eds., *Literacy theory and research: Analysis from multiple paradigms* (pp. 223–230). Chicago: National Reading Conference.

———. (1994, May). The utility of vowel spelling-sound correspondences in higher frequency, single-syllable words. A paper presented at the annual meeting of the International Reading Association in Toronto, Canada.

Shefelbine, J., Lipscomb, L., and Hern, A. (1989). Variables associated with second-, fourth-, and sixth-grade students' ability to identify polysyllabic words. In S. McCormick and J. Zutell, eds., *Cognitive and social perspectives for literacy research and instruction* (pp. 145–154). Chicago: National Reading Conference.

Stanovich, K.E. (1980). Toward an interactive-compensatory model of individual differences in the development of reading fluency. *Reading Research Quarterly,* 16, 32–71.

Stauffer, R.G. (1980). *The language experience approach to the teaching of reading.* 2d ed. New York: Harper & Row.

Stedman, L.C. and Kaestle, C.F. (1987). Literacy and reading performance in the United States, from 1880 to the present. *Reading Research Quarterly,* 22, 8–46.

Tangel, D.M., and Blachman, B.A. (1992). Effect of phoneme awareness instruction on kindergarten children's invented spelling. *Journal of Reading Behavior,* 24, 233–261.

Venezky, R. (1970). *The structure of English orthography.* Paris: Mouton.

Venezky, R., and Johnson, D. (1973). Development of two letter-sound patterns in grades one through three. *Journal of Educational Psychology,* 64, 109–115.

Weaver, C. (1990). *Understanding whole language: From principles to practice.* Portsmouth, NH: Heinemann.

About the Author

Dr. John Shefelbine is Associate Professor in the Department of Teacher Education, California State University, Sacramento, where he teaches courses in language and literacy, beginning reading, and children's literature. His degrees include an MAT in reading and language arts, K–12, from Harvard University and a Ph.D. in educational psychology from Stanford. During 11 years as an elementary and middle school teacher, Shefelbine worked with students from linguistically and culturally diverse populations in Alaska, Arizona, Idaho, and New Mexico. His scholarly interests have focused on how students learn word meanings from context, teachers' decisions about reading instruction, and the importance of wide reading for pleasure. Currently, he is concentrating on early intervention strategies for primary teachers in inner-city schools.

BEST COPY AVAILABLE

Onsets/Rimes

[Instruction in word families can expand children's reading vocabulary quickly and efficiently.] Treiman (1985) has found that breaking down syllables into onsets (or the part of the syllable before the vowel) and rimes (the part from the vowel onward) is useful to describe how we process syllables in oral language. Teaching onsets and rimes may be useful in written language as well.

Adams (1990) points out that letter-sound correspondences are more stable when one looks at rimes than when letters are looked at in isolation. For example, *ea* taken alone is thought of as irregular. However, it is very regular in all rimes, except *-ead* (*bead* vs. *bread*), *-eaf* (*sheaf* vs. *deaf*), and *-ear* (*hear* vs. *bear*). Then rime *-ean*, for example, nearly always has the long *e* sound. Of the 286 phonograms that appear in primary grade texts, 95 percent of them were pronounced the same in every word in which they appeared (Adams 1990).

In addition, nearly 500 words can be derived from the following 37 rimes (Stahl 1992):

-ack
-ain
-ake
-ale
-all
-ame
-an
-ank
-ap
-ash
-at
-ate
-aw
-ay
-eat
-ell
-est
-ice
-ick
-ide
-ight
-ill
-in
-ine
-ing
-ink
-ip
-it
-ock
-oke
-op
-ot
-ore
-uck
-ug
-ump
-unk

Rime-based instruction is used in a number of successful reading programs. In one such program children are taught to compare an unknown word to already known words and to use context to confirm their predictions (Gaskins et al. 1988). For example, when encountering *wheat* in a sentence, such as *The little red hen gathered the wheat*, a student might be taught to compare it to *meat* and say, "If m-e-a-t is *meat*, then this is *wheat*." The student would then cross-check the pronunciation by seeing if *wheat* made sense in the sentence. This approach is comprehension oriented in that students are focused on the comprehension of sentences and stories, but it does teach decoding effectively (see also Cunningham 1991).

References

Adams, M. J. 1990. *Beginning to Read: Thinking and Learning About Print*. Cambridge, Mass.: MIT Press.

Cunningham, P. M. 1991. *Phonics They Use*. New York: HarperCollins.

Gaskins, I. W., and others. 1988. "A Metacognitive Approach to Phonics: Using What You Know to Decode What You Don't Know." *Remedial and Special Education* 9: 36–41.

Stahl, S. A. 1992. "Saying the 'P' Word: Nine Guidelines for Exemplary Phonics Instruction." *The Reading Teacher* 45 (8) (April): 623.

Treiman, R. 1985. "Onsets and Rimes as Units of Spoken Syllables: Evidence from Children." *Journal of Experimental Child Psychology* 39: 161–81.

Source: Excerpt from Stahl, Steven A. (1992, April). "Saying the 'p' word: Nine guidelines for exemplary phonics instruction." *The Reading Teacher* 45 (8), 618–25. Reprinted with permission of Steven A. Stahl and the International Reading Association. All rights reserved.

Appendix B.

Writing

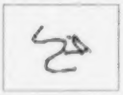
Stages of Writing Development

As children make connections between spoken and written language, they extend their understanding to include symbolic forms that are used to capture speech. Preschool-age children typically engage in reading and writing activities in casual and playful ways. Sulzby, Teale, and Kamberelis (1989, p. 77) note that children who have had frequent opportunities to write and read at home are more likely to enter conventional literacy as confident, risk-taking readers and writers.

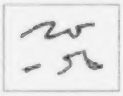
For almost all children in a literate society, learning to write and read begins early in life. Early writing develops concurrently and interrelatedly with literacy in young children who actively engage in understanding how written language works (Schickedanz 1999).

The following illustrations were developed from the works of Temple, Nathan, Temple and Burris, (1992) and D. H. Graves (1989) and from drawings compiled by Helen Faul of the California Kindergarten Association. They show the broad milestones that children achieve in art, literacy, spelling, and writing. (These stages are interrelated in young children, who make no distinction between these subject areas.)

Prephonemic Stage



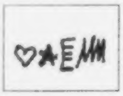
Random scribbling—The starting point is any place on the page.



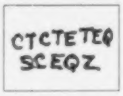
Controlled scribbling—Progression is from left to right.

Circular scribbling—Circles or ovals flow on the page.

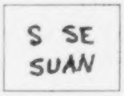
Drawing—Pictures tell a story or convey a message.



Mock letters—These can be personal or conventional symbols, such as a heart, star, or letters with extra lines.



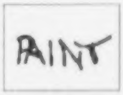
Letter strings—These move from left to right and progress down the page of actual letters. They have no separations and no correlation with words or sounds.



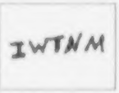
Separated words—Groups of letters have space in between to resemble words.

Early Phonemic Stage

Picture labeling—A picture's beginning sound is matched to a letter (*Dog*.)

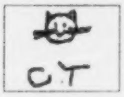


Awareness of environmental print—Environmental print, such as names on cubbies, is copied.



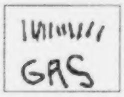
Transitional stage spelling or invented spelling—First letter of a word is used to represent the word *(I went to the nature museum)*.

Letter-Name Stage

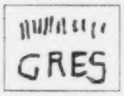


Beginning and ending letters are used to represent a word (*cat*).

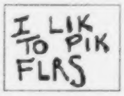
Transitional Stage



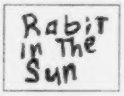
Medial sound is a consonant (*grass*).



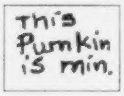
Medial sound is in correct position, but the vowel is wrong (*grass*).



A child hears beginning, medial, and ending letters (*I like to pick flowers*).

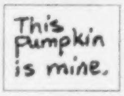


Phrase writing develops (*rabbit in the sun*).



Whole-sentence writing develops (*This pumpkin is mine*).

Conventional Writing Stage



Transitional stage spelling (or invented spelling) is replaced by full, correct spelling of words.

Some teachers assess using sequences to make developmental checklists or portfolio inventory sheets. During choice time, the teacher observes and notes any writing behavior. These notes are later entered onto an inventory sheet in a child's portfolio. This compilation of records for each child shows growth over time and is a valuable tool for lesson planning, parent conferences, and statistics on student achievement. More information can be found in *The Beginnings of Writing* and *More Than the ABCs: The Early Stages of Reading and Writing.*

References

Graves, D. H. 1989. "Writing: Teachers and Children at Work." In *Emerging Literacy: Young Children Learn to Read and Write.* Edited by D. S. Strickland and L. M. Morrow. Newark, Del.: International Reading Association.

Schickedanz, J. 1999. *Much More Than the ABCs: The Early Stages of Reading and Writing.* Washington, D.C.: National Association for the Education of Young Children.

Sulzby, E.; W. H. Teale; and G. Kamberelis. 1989. "Emergent Writing in the Classroom: Home and School Connections," in *Emerging Literacy: Young Children Learn to Read and Write.* Edited by D. S. Strickland and L. M. Morrow. Newark, Del.: International Reading Association.

Temple, C., et al. 1992. *The Beginnings of Writing* (Third edition). Needham Heights, Mass.: Allyn and Bacon.

Overview of Writing as a Process

The writing process might be described as having several stages or phases. These stages should not be thought of as necessarily sequential or linear. Rather, they are largely recursive; for example, editing may occur during writing. Some writing assignments may not require attention to each of the stages identified below. For example, informal writing in journals and brief written exercises help students achieve greater fluency, but those activities require less attention to the stages of writing than would be necessary for writing that is to be published.

Prewriting is any activity that motivates a person to write, generates material and ideas, and focuses attention on a particular subject. Activities include brainstorming, clustering (webbing), gathering information or background knowledge, and mapping. Early childhood instructors teach prewriting by providing an environment that stimulates and motivates students to write. Time is scheduled for discussing the assignment and students' ideas, building vocabulary, and generating and charting ideas. Teachers of English language learners may first elicit oral language, using familiar pictures or objects that may be a part of the assignment.

Drafting is putting words to paper, perhaps without any conscious intent. Students begin to form ideas and images. Correctness is not important at this stage. Teachers support this stage by providing time and materials that allow for spontaneity and creativity. They may form small groups of English language learners to stimulate a free flow of vocabulary and ideas or to make sure each student takes a role in the writing process.

Sharing and responding from peers or the teacher help the writer gain a sense of audience, begin to see the impact of the writing on others, and notice any gaps between the purpose and effect of the writing. Teachers help students by role modeling whole-class response sessions, providing sample response sheets or open-ended questions, and forming small response groups for more immediate reactions.

Revising of the material already written is based on comments from previous readers as well as on the author's review. Newer versions attempt to respond more articulately to the intent and audience. Teachers stimulate revising skills by having small- or large-group discussions on whether or not particular writing elements are done well; giving daily opportunities to change a sample sentence into a vivid paragraph; and assigning to each student a topic that he or she must revise for particular audiences.

Editing is making the copy correct for spelling, grammar, syntax, punctuation, capitalization, omissions, inconsistencies, errors, and proper form. Teachers encourage editing by giving copies of editing standards for students to edit a daily sentence and by dictating correct sentences that illustrate specific editing matters. The task of editing is simplified by a knowledge of keyboarding so that text is more easily removed, added, or changed.

Postwriting includes publishing, evaluating, and reflecting. Publishing is sharing the finished work through such activities as "Author's Chair," pen pals, newspapers, and class books. Evaluating is the final feedback. It may be a grade, a narrative, or an indication—all of which compare to a rubric. Reflecting is the student's personal or shared thoughts about the process or product or both. Teachers support postwriting activities by having the whole class assess some writing samples against the rubric or perform on a local radio station or school intercom system, giving recognition to outstanding student writers.

Sources: D'Aoust 1996. "Teaching Writing as a Process," in *Practical Ideas for Teaching Writing as a Process at the Elementary School and Middle School Levels* (Revised edition). Education, 1–4; and *Handbook for Planning an Effective Writing Program, Kindergarten Through Grade Twelve* 1986.

Interactive Writing

Interactive writing is teacher-guided group activity to teach children about the writing process and about how written language works.[1] It reinforces alphabet knowledge, concepts about print, phonemic awareness, the writing process, the joy of reading and writing, and the social nature of reading and writing. Interactive writing, which should not take more than 15 minutes per day, begins when children show signs of knowing some letters and sounds. In a group kindergartners compose a message—perhaps only one sentence is written. Later in kindergarten and in first grade, longer or several sentences may be added each day for a week.

The Process

The teacher guides the students in generating a meaningful sentence (so that the students have ownership). It may be based on a recent field trip, story, classroom experience, or other shared activity. The process should promote a positive atmosphere with mistakes being accepted and corrected easily. Misspellings or reversals are corrected as they occur because the purpose of interactive writing is to model standard spelling and writing. Kindergartners may mix upper- and lower-case letters; however, this style should be corrected in first grade.

Interactive writing reinforces lessons taught in prior skill-building sessions and is a time for children to "take the pen." The teacher may write some unknown or irregular letters or words, but students write most of the composed text. This process enables all children to participate, regardless of where they are in their phonemic development. Children who do not know their letters well may be called on for a letter the teacher is sure they know (such as one in their name), or they can put their fingers on the chart to indicate spaces between words. This supported literacy opportunity helps all children to see language being used correctly and to understand the writing process. Interactive writing is, thus, one process of many that teachers use to develop necessary writing and reading skills.

A Typical Session

The following steps occur in a typical session for interactive writing:

1. The teacher guides the student in generating a sentence. The teacher may "influence" that composition, depending on a particular writing strategy being emphasized.
2. The teacher and students repeat the sentence several times and hold up their fingers to count the number of words it contains. This restatement after each word is written helps children remember what they are writing.
3. The teacher says the first word and guides the students in stretching out the word: "Which sound do you hear first?" "Which letter makes that sound?" The teacher calls on a child to write on the chart. If a child makes an error, the teacher covers it with opaque tape and makes light of the error.

---

[1] For detailed ideas about interactive writing for K/1 students, see Pinnell and Fountas 1998.

The process is repeated for each sound in the word. (The teacher slips in silent letters and lets children know that those sounds are not heard; but when the children are older, they will know that the letters belong there.)

4. Each time a word is complete, everyone re-reads the message aloud together while the teacher points to the words.
5. The teacher asks, "What do we need to do before we write the next word? When students respond that a space is needed, a student is asked to come up to the chart and use his or her hand or fingers as a space holder.
6. As familiarity with words grows, one student may write a whole word. If a word is known easily by all the students, the teacher may quickly write it in so that the lesson does not become tedious.
7. The completed charts are displayed in the room so that children can "revisit" their familiar stories or sentences and use them as resources for other literacy activities. Students may illustrate the charts, copy the sentences to take home, enter important words in their personal dictionaries, and include some words in their weekly spelling tests.

Source: This appendix offering was based on Pinnell and McCarrier 1994 "Interactive Writing: A Transition Tool for Assisting Children in Learning to Read and Write," in *Getting Reading Right from the Start: Effective Early Literacy Interventions.* Edited by E. Hiebert and B. Taylor. Boston: Allyn and Bacon.

Appendix C.

Assessment

Sample Observation Recording Form (Examples)

Description of child's work and behavior for each context
(Cite specific indications of skills or knowledge.)

Settings and Activities	Examples of Child's Activities
Story time: Teacher reads to class (responses to story line; child's comments, questions, elaborations)	
Independent reading: Book time (nature of books child chooses or brings in, process of selecting, quiet or social reading)	
Writing: (journal stories, alphabet, dictation)	
Reading group/individual: (oral reading strategies: discussion of text, responses to instruction)	
Reading-related activities tasks: (responses to assignments or discussions focusing on word letter properties, word games/experience charts)	
Informal settings: (use of language in play, jokes, storytelling, conversation)	
Books and print as resource: (using books for projects; paying attention to signs, labels, names; locating information)	
Other:	

Source: Fig. 1 from Chittenden and Courtney 1989. "Assessment of Young Children's Reading: Documentation as an Alternative to Testing," in *Emerging Literacy: Young Children Learn to Read and Write* (pp. 107–20). Edited by D. S. Strickland and L. M. Morrow. Reprinted with permission of Edward Chittenden and the International Reading Association. All rights reserved.

The authors developed an "Observation Recording Form" organized around seven classroom situations. This appendix shows two versions of that form. On the "Examples" form teachers provide specific examples of the child's work and behavior for a given context. What kinds of reactions does the child exhibit during story time? Which books are frequently chosen for independent reading? What sorts of writing activities have been undertaken? Here the focus is on the quality and level of the child's work, as distinct from degree of interest. In the "Ratings" version teachers provide overall ratings of the child's interest or "investment" in a given setting. For example, during story time is the child generally interested in the story? Does the child seem involved with the narrative, as indicated by posture, comments, or other behaviors?

BEST COPY AVAILABLE

Sample Observation Recording Form (Ratings)

Child's name: ______________________ **Grade:** ______________

Teacher: ______________________ **Date:** ______________

Ratings of child's interest/investment in different classroom contexts
(Based on observations over a period of several weeks)

Settings and Activities	**Very interested, intense**	**Moderately interested**	**Uninterested (Attention is elsewhere.)**
Story time: Teacher reads to class (responses to story line; child's comments, questions, elaborations)	________	________	________
Independent reading: Book time (nature of books child chooses or brings in, process of selecting, quiet or social reading)	________	________	________
Writing: (journal, stories, alphabet, dictation)	________	________	________
Reading group/individual: (oral reading strategies: discussion of text, responses to instruction)	________	________	________
Reading-related activities tasks: (responses to assignments or discussions focusing on word letter properties, word games/experience charts)	________	________	________
Informal settings: (use of language in play, jokes, storytelling, conversation)	________	________	________
Books and print as resource: (using books for projects; paying attention to signs, labels, names; locating information)	________	________	________
Other:	________	________	________

The Learning Record (Elementary)

Adapted with permission from the Primary Language Record (PLR), Developed and copyrighted by the Centre for Language in Primary Education, Webber Row Teacher's Centre, Webber Row, London SE1 8QW, in 1988 and distributed in the U.S. by Heinemann Educational Books, Inc. ISBN 0-435-08516-6

School
Teacher
School Year

Name
Grade Level ______________
Birth Date ______________
Boy/Girl _________

Languages understood	Languages read	Languages spoken	Languages written

Details of any aspect of hearing, vision, or coordination affecting the child's language/literacy. Give the source and date of this information.

Names of staff involved with child's development.

PART A To be completed during the first quarter

A1 Record of discussion between child's parent(s) and class teacher

(CLR Handbook for teachers K-6, Part A)

Signed Parent(s) ______________________________
Teacher ______________________________
Date ______________________________

A2 Record of language/literacy conference with child

(CLR Handbook for teachers K-6, Part A2)

Date ______________________

Published as a component of The Learning Record Assessment System. For further information, call or write the Center for Language in Learning, at 10610 Quail Canyon Road, El Cajon, CA 92021 (619) 443-6320.

PART B

To be completed during the second and/or third quarter and to include information from all teachers currently teaching the child.

B1 Talking and Listening

(CLR Handbook for Teachers K-6, Part B1)

Please comment on the child's development and use of spoken language in different social and curriculum contexts, in English and/or other languages: evidence of talk for learning and thinking; range and variety of talk for particular purposes, experience and confidence in talking and listening with different people in different settings.

What experiences and teaching have helped/would help development in this area? Record outcomes of any discussions with other staff or parent(s)

B2 Reading

(CLR Handbook for Teachers K-6, Part B2)

Please comment in your own words on the child's progress and development as a reader in English and/or other languages: the stage at which the child is operating; the range, quantity and variety of reading in all areas of the curriculum, the child's pleasure and involvement in story and reading, alone or with others; the range of strategies used when reading and the child's ability to reflect critically on what is read. **Refer to the appropriate reading scale**

Published as a component of The Learning Record Assessment System. For further information, call or write the Center for Language in Learning, at 10610 Quail Canyon Road, El Cajon, CA 92021 (619) 443-6320.

(B2 continued)

What experiences and teaching have helped/would help development in this area? Record outcomes of any discussions with other staff or parent(s).

B3 Writing

(CLR Handbook for Teachers K-6, Part B2)

Please comment on the child's progress and development as a writer in English and/or other languages: the degree of confidence and independence as a writer; the range, quantity and variety of writing in all areas of the curriculum; the child's pleasure and involvement in writing, both narrative and non-narrative, alone and in collaboration with others; the influence of reading on the child's writing; growing understanding of written language, its convention and spelling.

What experiences and teaching have helped/would help development in this area? Record outcomes of any discussions with other staff or parent(s).

Signed: Classroom Teacher ______________________ Date __________

Other Staff Contributor(s) ______________________ Date __________

____

Published as a component of The Learning Record Assessment System. For further information, call or write the Center for Language in Learning, at 10610 Quail Canyon Road, El Cajon, CA 92021 (619) 443-6320.

Student's placement on the reading scale at the end of third quarter ____________

PART C To be completed during the fourth quarter

(CLR Handbook for Teachers K-6, Part C)

C1 Comments on the record by the child's parent(s)

C2 Record of language/literacy conference with child

C3 Information for receiving teacher

This section is to ensure that information for the receiving teacher is as up to date as possible. Please comment on changes and development in any aspect of the child's learning since Part B was completed.

What experiences and teaching have helped/would help development in this area? Record outcomes of any discussions with other staff or parent(s).

Signed: Parent(s) ____________________ Date ____________

Classroom Teacher ____________________ Date ____________

Other Staff Contributor(s) ____________________ Date ____________

Published as a component of The Learning Record Assessment System. For further information, call or write the Center for Language in Learning, at 10610 Quail Canyon Road, El Cajon, CA 92021 (619) 443-6320.

Data Collection

(The Learning Record, Elementary)

Name:

Grade Level:

1. Talking & Listening: observation notes

The space below is for recording examples of the child's developing use of talk for learning and for interacting with others in English and/or other languages.

Include different kinds of talk.(e.g., planning an event solving a problem, expressing a point of view or feeling, reporting on the results of an investigation, telling a story...).

Note the child's experience and confidence in handling social dimensions of talk (e.g., initiating a discussion, listening to another contribution, qualifying former ideas, encouraging others...).

The matrix sets out some possible contexts for observing talk and listening. It may be useful for addressing reading or writing development as well. Observations made in the space below can be plotted on the matrix to record the range of social and curriculum contexts sampled.

(CLR Handbook for Teachers K-6, Part B)

	SOCIAL CONTEXTS				
LEARNING CONTEXTS	pair	small group	child with adult	small or large group with adult	
collaborative reading and writing activities					
play, dramatic play, drama & storying					
environmental studies & historical research					
math & science investigations					
design, construction, crafts & arts projects					

Attach additional pages as necessary

Dates	Observations and their contexts

BEST COPY AVAILABLE

Published as a component of The Learning Record Assessment System. For further information, call or write the Center for Language in Learning, at 10610 Quail Canyon Road, El Cajon, CA 92021 (619) 443-6320.

2 Reading and Writing: observation notes

(Reading and writing in English and/or other languages)

(CLR Handbook for teachers K-6, Part B)

Date

Reading

Record observations of the child's development as a reader across a range of contexts and kinds of reading.

Writing

Record observations of the child's development as a writer (including stories dictated by the child when appropriate) across a range of contexts and kinds of writing.

Published as a component of The Learning Record Assessment System. For further information, call or write the Center for Language in Learning, at 10610 Quail Canyon Road, El Cajon, CA 92021 (619) 443-6320

3 Reading Samples (Reading in English and/or other languages)

(CLR Handbook for teachers K-6, Part B)

To include reading aloud and reading silently

Dates			
Title or book/text (literary or information)			
Known/unknown text			
Sampling procedure used: informal assessment/ running record/ miscue analysis			
Overall impression of the child's reading: • confidence and degree of independence • involvement in the book/text • the way in which the child reads the text aloud			
Strategies used when reading aloud: • drawing on previous experience to make sense of the book/text • playing at reading • using book language • reading the pictures • focusing on print (directionality, 1:1 correspondence, recognition of certain words) • using semantic, syntactic and graphophonic cues • predicting • self-correcting • using several strategies or over-dependence on one			
Child's response to the book/text: • personal response • critical response (understanding, evaluating, appreciating wider meanings			
What this sample shows about the child's development as a reader. **Experiences/support needed to further development.**			

* Early indicators that the child is moving into reading

Please attach text samples described on this sheet

Published as a component of The Learning Record Assessment System. For further information, call or write the Center for Language in Learning, at 10610 Quail Canyon Road, El Cajon, CA 92021 (619) 443-6320

4 **Writing Samples** (Writing in English and/or other languages)

Writing to include children's earliest attempts at writing

Dates			
Contexts and background information about the writing • how the writing arose • how the child went about the writing • whether the child was writing alone or with others • whether the writing was discussed with anyone while the child was working on it • the kind of writing (e.g., list, letter, story, poem, personal writing, information writing) • complete piece of work/extract			
Child's own response to the writing.			
Teacher's response: • to the content of the writing • to the child's ability to handle this particular kind of writing • overall impressions			
Development of spelling and conventions of writing.			
What this writing shows about the child's development as a writer • how it fits into the range of the child's previous writing • experience/support needed to further development			

Please attach the writing with this sample sheet.

Published as a component of The Learning Record Assessment System. For further information, call or write the Center for Language in Learning at 10610 Quail Canyon Road, El Cajon, CA 92021 (619) 443-6320

Hallie Kay Yopp

A test for assessing phonemic awareness in young children

The Yopp-Singer Test of Phoneme Segmentation provides teachers with a new tool for assessing children's phonemic awareness and identifying those children who may experience difficulty in reading and spelling.

Two decades ago few educational researchers and practitioners were familiar with the concept of phonemic awareness. In the last several years, however, phonemic awareness has captured the attention of many individuals in both the research community and elementary classrooms, and this interest is likely to continue for some time. What is this concept that has attracted so much attention? Phonemic awareness, as the term suggests, is the awareness of phonemes, or sounds, in the speech stream. It is the awareness that speech consists of a series of sounds.

Most youngsters enter kindergarten lacking phonemic awareness. Indeed, few are conscious that sentences are made up of individual words, let alone that words can be segmented into phonemes.

By the end of first grade, however, many (but not all) children have gained this awareness and can manipulate phonemes in their speech. For example, they can break spoken words into their constituent sounds, saying "/d/-/i/-/g/" when presented with *dig;* they can remove a sound from a spoken word, saying "rake" when asked to take the /b/ off the beginning of the word *break;* and they can isolate the sound they hear at the beginning, middle, or end of a word. [Parallel lines surrounding a letter (e.g., /z/) are used to represent the sound rather than the name of the letter. For the ease of the reader, typical spellings of sounds will be used within these lines rather than the symbols used in phonetic transcriptions.]

Research has demonstrated that phonemic awareness is a very important ability. There is substantial evidence that phonemic awareness is strongly related to success in reading and spelling acquisition (Ball & Blachman, 1991; Liberman, Shankweiler, Fischer, & Carter, 1974; Perfetti, Beck, Bell, & Hughes, 1987; Share, Jorm, Maclean, & Matthews, 1984; Treiman & Baron, 1983; Yopp, 1992a). In a review of the research, Stanovich (1986) concluded that phonemic awareness is a more potent predictor of reading achievement than nonverbal intelligence, vocabulary, and listening comprehension, and that it often correlates more highly with reading acquisition than tests of general intelligence or reading readiness. He restated this conclusion recently in the pages of *The Reading Teacher:* "Most importantly, [phonemic awareness tasks] are the best predictors of the ease of early reading acqui-

Yopp, Hallie Kay (1995, September) A test for assessing phonemic awareness in young children *The Reading Teacher 49* (1), 20–29 Reprinted with permission of Hallie K Yopp and the International Reading Association All rights reserved

sition—better than anything else that we know of, including IQ" (Stanovich, 1994, p. 284).

A growing number of studies indicate that phonemic awareness is not simply a strong predictor, but that it is a necessary prerequisite for success in learning to read (Bradley & Bryant, 1983, 1985; Tunmer, Herriman, & Nesdale, 1988; see also Stanovich's 1994 discussion). For instance, Juel and Leavell (1988) determined that children who enter first grade lacking phonemic awareness are unable to induce spelling-sound correspondences from print exposure or to benefit from phonics instruction. Likewise, in her comprehensive survey of the research on learning to read, Adams (1990) concluded that children who fail to acquire phonemic awareness "are severely handicapped in their ability to master print" (p. 412).

The importance of phonemic awareness appears to cut across instructional approaches, as evidenced by the work of Griffith, Klesius, and Kromrey (1992), who found that phonemic awareness is a significant variable in both whole language and traditional classrooms. Few now would argue with the claim that this ability is essential for reading progress.

Given the evidence that phonemic awareness is necessary for success in reading development, many researchers are sounding the call for teachers of young children to include experiences in their curriculum that facilitate the development of phonemic awareness (Griffith & Olson, 1992; Juel, 1988; Lundberg, Frost, & Petersen, 1988; Mattingly, 1984). Particular attention needs to be given to those children lacking this ability. How, then, can teachers determine which students have this critical ability?

Any assessment instrument used to identify those students needing more activities that facilitate phonemic awareness must be both reliable and valid. The purpose of this article is to provide teachers with a tool for assessing phonemic awareness, and to offer evidence of its reliability and validity. The Yopp-Singer Test of Phoneme Segmentation is easy to administer, score, and interpret.

The instrument

The Yopp-Singer Test of Phoneme Segmentation measures a child's ability to separately articulate the sounds of a spoken word in order. For example, given the orally presented word *sat*, the child should respond with three separate sounds: /s/-/a/-/t/. Note that sounds, not letter names, are the appropriate response. Thus, given the four-letter word *fish*, the child should respond with three sounds: /f/-/i/-/sh/ (see the 22-item Test). Words were selected for inclusion on the basis of feature analysis and word familiarity. (For a complete discussion of the word list rationale, see Yopp, 1988.) The test is administered individually and requires about 5 to 10 minutes per child.

There is substantial evidence that phonemic awareness is strongly related to success in reading and spelling acquisition.

Children are given the following directions upon administration of the test :

> Today we're going to play a word game. I'm going to say a word and I want you to break the word apart. You are going to tell me each sound in the word in order. For example, if I say "old," you should say "/o/-/l/-/d/" (The administrator says the sounds, not the letters.) Let's try a few words together.

The practice items are *ride, go,* and *man.* The examiner should help the child with each sample item—segmenting the item for the child if necessary and encouraging the child to repeat the segmented sounds. Then the child is given the 22-item test. Feedback is given to the child as he or she progresses through the list. If the child responds correctly, the examiner nods or says, "That's right." If the child gives an incorrect response, he or she is corrected. The examiner provides the appropriate response.

A child's score is the number of items correctly segmented into all constituent phonemes. No partial credit is given. For instance, if a child says "/c/-/at/" instead of "/c/-/a/-/t/," the response may be noted on the blank line following the item but is considered incorrect for purposes of scoring. Correct responses are only those that involve articulation of each phoneme

Yopp-Singer Test of Phoneme Segmentation

Student's name ______________________ Date __________

Score (number correct) __________

Directions: Today we're going to play a word game. I'm going to say a word and I want you to break the word apart. You are going to tell me each sound in the word in order. For example, if I say "old," you should say /o/ - /l/ - /d/." *(Administrator: Be sure to say the sounds, not the letters, in the word.)* Let's try a few together.

Practice items: (*Assist the child in segmenting these items as necessary.*) ride, go, man

Test items: (*Circle those items that the student correctly segments; incorrect responses may be recorded on the blank line following the item.*)

1. dog __________
2. keep __________
3. fine __________
4. no __________
5. she __________
6. wave __________
7. grew __________
8. that __________
9. red __________
10. me __________
11. sat __________
12. lay __________
13. race __________
14. zoo __________
15. three __________
16. job __________
17. in __________
18. ice __________
19. at __________
20. top __________
21. by __________
22. do __________

The author, Hallie Kay Yopp, California State University, Fullerton, grants permission for this test to be reproduced. The author acknowledges the contribution of the late Harry Singer to the development of this test.

those that involve articulation of each phoneme in the target word.

A blend contains two or three phonemes and each of these should be articulated separately. Hence, item 7 on the test, *grew*, has three phonemes: /g/-/r/-/ew/. Digraphs, such as /sh/ in item 5, *she*, and /th/ in item 15, *three*, are single phonemes. Item 5, therefore, has two phonemes and item 15 has three phonemes. If a child responds with letter names instead of sounds, the response is coded as incorrect, and the type of error is noted on the test.

Teachers of young children should expect a wide range of performance on this test. A sample of kindergarteners drawn from the public schools in a west coast city in the United States obtained scores ranging from 0 to 22 correct (0% to 100%) during their second semester. The mean (average) score was 11.78, with a standard deviation of 7.66 (Yopp, 1988, see below). Similar findings from a sample of kindergarteners on the east coast of the United States were reported by Spector (1992): the mean score was 11.39 with a standard deviation of 8.18.

Students who obtain high scores (segmenting all or nearly all of the items correctly) may be considered phonemically aware. Students who correctly segment some items are displaying emerging phonemic awareness. Students who are able to segment only a few items or none at all lack appropriate levels of phonemic awareness. Without intervention, those students scoring very low on the test are likely to experience difficulty with reading and spelling.

Teachers' notes on the blank lines of the test will be helpful in understanding each child. Some children may partially segment—perhaps dividing words into chunks larger than phonemes. These children are beginning to have an insight into the nature of speech. Others may simply repeat the stimulus item or provide nonsense responses regardless of the amount of feedback and practice given. They have very little insight into the phonemic basis of their speech. Still others may simply offer letter names.

If the letter names are random (e.g., given *red* the child responds "n-b-d-o"), the teacher learns that the child lacks phonemic awareness but knows some letter names. If the letter names are close approximations to the conventional spelling of the words (e.g., given *red* the child responds "r-a-d"), the teacher knows that either the child has memorized the spellings of some words or that he or she is phonemically aware and has mentally segmented the items, then verbally provided the examiner with the letters corresponding to those sounds—an impressive feat! The examiner should repeat the instructions in this case to make sure the child fully understands the task.

Data on the instrument

A number of years ago I undertook a study to compare tests of phonemic awareness that appeared in the literature and to examine the reliability and validity of each (Yopp, 1988). Nearly 100 second-semester kindergarten youngsters drawn from three public elementary schools in a southern California school district that serves children from a lower middle to an upper middle class population were each administered 10 different phonemic awareness tests over a period of several weeks. Children ranged in age from 64 to 80 months with an average age of 70 months, and were predominantly White, with 1% Black, 2% Asian, and 15% with Spanish surnames. All children were fluent English speakers.

Performance on the phonemic awareness tests was compared, the reliability of each test was calculated, and a factor analysis was conducted to determine validity. One of the tests in the battery, the Yopp-Singer Test of Phoneme Segmentation, had a reliability score (Cronbach's alpha) of .95, indicating that it can be appropriately used in the assessment of individuals. Experts in tests and measurement tell us that instruments should have reliability coefficients above .85 (Hills, 1981) or even .90 (Jensen, 1980) if they are to be used to make decisions about individuals.

Analyses also indicated that the Yopp-Singer Test is a valid measure of phonemic awareness. Construct validity was determined through a factor analysis (for details see Yopp, 1988). Predictive validity was determined by collecting data on the reading achievement of the same students each year beginning in kindergarten and concluding when the students were in sixth grade; spelling achievement data were obtained in Grades 2 to 6. Thus, 7 years of longitudinal data are available. (See Yopp, 1992a for details on this study.) A test of non-

Table 1
Descriptions of reading and spelling tests used to determine predictive validity

Nonword Reading Test

The nonword reading test was administered for the purpose of determining each child's ability to use sound-symbol correspondences to decode nonwords. Children were assessed on their ability to sound and blend printed nonwords such as *paz* and *kov*.
Administered in kindergarten.

CTBS Word Attack Subtest

The word attack section requires students to identify letters corresponding to the initial or final single consonant, cluster, or digraph sounds or the medial vowels heard in orally presented words. Recognition of sight words is also measured in this subtest.
Administered during Grades 1 through 3.

CTBS Vocabulary Subtest*

The vocabulary section measures children's ability to identify a word associated with an orally presented category or definition, in addition to identifying same-meaning words or unfamiliar words in context.
Administered during Grades 1 through 6.

CTBS Reading Comprehension Subtest*

The reading comprehension section is used to measure children's comprehension of both sentences and stories. Children are asked to respond to objective questions after reading each selection.
Administered during Grades 1 through 6.

CTBS Spelling Subtest

The spelling section measures children's ability to recognize correctly spelled words.
Administered during Grades 2 through 6.

*A "total" reading scores is generated for each child that combines the vocabulary and comprehension subtests.

word decoding was administered in kindergarten. In order to determine reading and spelling achievement in Grades 1 through 6, records of the students' performance on the Comprehensive Test of Basic Skills (CTBS, 1973), a timed, norm-referenced, objectives based test, were obtained. This standardized test, widely used by school districts as part of their regular testing program, includes word attack, vocabulary, comprehension, and spelling subtests in the reading and spelling achievement battery. These tests are described in Table 1.

Table 2 presents the correlations between performance on the Yopp-Singer Test of Phoneme Segmentation administered in kindergarten and all subtests on the reading and spelling achievement battery throughout the grade levels as well as the kindergarten nonword reading measure. Each of the correlations is significant: performance on the Yopp-Singer Test of Phoneme Segmentation has a moderate to strong relationship with performance on the nonword reading test given in kindergarten and with the subtests of the CTBS—word attack, vocabulary, comprehension, and spelling (and the total score)—through Grade 6. Thus, the phonemic awareness test has significant predictive validity.

Because reading and spelling achievement are related to phonemic awareness and to future reading and spelling achievement, these impressive correlations (as high as .78) do not address the question of whether a measure of phonemic awareness truly contributes to the prediction of reading and spelling performance years later, independent of previous reading and spelling achievement. For instance, a significant correlation between phonemic awareness in kindergarten and reading in Grade 1 might be obtained because reading performance in kindergarten and Grade 1 are highly correlated, and reading performance in kindergarten and phonemic awareness in kindergarten are highly correlated.

Table 2
Correlation of performance on phonemic awareness task administered in Grade K with performance on reading and spelling subtests, Grades K–6

	Subtests					
Grade level	Nonword	Word Attack	Vocabulary	Comprehension	Total	Spelling
K	.67**					
1		.46**	.66**	.38**	.62**	
2		.62**	.72**	.55**	.67**	.53**
3		.56**	.66**	.62**	.67**	.44**
4			.51**	.62**	.58**	.60**
5			.56**	.57**	.59**	.55**
6			.78**	.66**	.74**	.46**

*p<.05 **p<.01

Thus, the relationship between phonemic awareness in kindergarten and reading in first grade might simply be a byproduct of these other relationships. We want to know whether a measure of phonemic awareness obtained in kindergarten contributes to the prediction of future reading and spelling achievement above and beyond the contribution that past reading and spelling achievement makes on future achievement in reading and spelling. Does performance on a measure of phonemic awareness offer us any unique insights into future performance in reading and spelling?

In order to rule out the effect of reading and spelling achievement over the years on subsequent reading and spelling performance, partial time-lag correlations were also conducted. These correlations are "partial" in that they partial out, or eliminate, the effects of one variable (in this case, past reading or spelling performance) on another (in this case, later reading or spelling performance); they are "time-lag" in that they examine the relationship between two variables over time (earlier phonemic awareness performance and later reading or spelling achievement). The partial time-lag correlations are presented in Table 3.

Each correlation coefficient indicates the strength of the relationship between performance on the phonemic awareness test in

Table 3
Partial time-lag correlation of performance on phonemic awareness task administered in Grade K with performance on reading and spelling subtests, Grades 1–6, controlling for performance on reading and spelling subtests administered the previous year

	Subtests				
Grade level	Word Attack	Vocabulary	Comprehension	Total	Spelling
1	.33**	.55**	.08	.43**	
2	.51**	.36**	.43**	.32**	
3	.20	.19	.43**	.33**	.11
4		−.05	.38**	.10	.43**
5		.54**	.18	.36*	.26
6		.51**	.45**	.47**	−.05

*p<.05 **p<.01

kindergarten and performance on reading and spelling subtests in Grades 1–6 when the previous year's achievement in these areas has been controlled. Thus, the .54 correlation found in Table 3 between phonemic awareness in kindergarten and vocabulary in Grade 5 is the strength of the relationship after fourth-grade vocabulary performance has been accounted for.

Table 3 reveals that most of the correlations remain significant, some as high as .51, .54, and .55. Thus, they reveal that scores on the Yopp-Singer Test of Phoneme Segmentation make a unique contribution to predicting students' reading and spelling achievement above and beyond their previous achievement in these areas.

We can [use this instrument to] identify children quite early who are likely to experience difficulty in reading and spelling and give them appropriate instructional support.

The power of a 5- to 10-minute, 22-item test administered in kindergarten to predict students' performance in reading and spelling achievement years later, even after controlling for previous reading and spelling achievement, is quite surprising. In his review of the research on phonemic awareness, Stanovich (1994) noted the strong relationship between performance on a number of simple, short phonemic awareness tasks and reading acquisition and suggests that the power of such simple tasks to predict reading acquisition is one of the reasons for the tremendous research energy currently devoted to this line of inquiry.

Implications

What do these findings mean for teachers? They mean that we now have a tool—one that is both valid and reliable as well as simple and quick to administer—that can be used to determine a child's phonemic awareness, and we have the knowledge that performance on this measure is significantly related to a child's achievement in reading and spelling for years to come.

What can we do with this information? We can identify children quite early who are likely to experience difficulty in reading and spelling and give them appropriate instructional support. Fortunately, a growing body of evidence indicates that training of phonemic awareness is possible and that it can result in significant gains in subsequent reading and spelling achievement (Ball & Blachman, 1991; Bradley & Bryant, 1983; Cunningham, 1990; Lie, 1991; Lundberg et al., 1988). Thus, a child need not be labeled "phonemically unaware" and therefore inevitably a "poor" reader. Phonemic awareness is an ability that teachers and reading/language arts specialists can develop in many students.

Some researchers have argued that systematic training in phonemic awareness should be part of every youngster's education before the onset of formal reading instruction (Mattingly, 1984; Tunmer et al., 1988). The need for this, of course, depends upon the abilities of the individual children in the classroom. Further, in many classrooms the onset of formal reading will be difficult to identify—there is no onset of "formal" instruction and reading is not differentiated from prereading.

A growing number of teachers hold an emergent literacy perspective, viewing literacy as an evolving process that begins during infancy and they provide a wealth of valuable literacy experiences for children very early on. Certainly these experiences should not be withheld until children become phonemically aware!

However, it is important for teachers and other practitioners to appreciate that children will likely make little sense of the alphabetic principle without phonemic awareness, and so phonemic awareness should be developed as part of the larger literacy program for many children. Fortunately, phonemic awareness activities can be readily incorporated into preschool, kindergarten, and early primary grade classrooms. Recent articles in *The Reading Teacher* (Griffith & Olson, 1992; Yopp, 1992b) have provided suggestions for helping young children focus on the sounds of language through stories, songs, and games. A few suggestions will be highlighted here.

Griffith and Olson (1992) and I (Yopp, 1995) suggest that one simple means to draw children's attention to the sound structure of language is through the use of read-aloud books. Many children's books emphasize speech sounds through rhyme, alliteration, assonance, phoneme substitution, or segmentation and offer play with language as a dominant feature. For instance, P. Cameron's *"I Can't," Said the Ant* (1961) makes use of a simple rhyme scheme, Seuss's *Dr. Seuss's ABC* (1963) uses alliteration as each letter of the alphabet is introduced, and his *There's a Wocket in My Pocket* (1974) incorporates initial phoneme substitution to create a household of humorous nonsense creatures.

I have suggested (Yopp, 1995) that such books can be read and reread, their language can be enjoyed and explored in class discussions, predictions that focus on language can be encouraged, and additional verses or alternate versions of the texts can be created using the language patterns provided. (See Yopp, 1995, for an annotated bibliography of books to develop phonemic awareness.)

A guessing game that I have used successfully both with groups of children and in individualized settings is "What am I thinking of?" (Yopp, 1992b). This game encourages children to blend orally spoken sounds together. The teacher tells the children a category and then speaks in a segmented fashion the sounds of a particular item in that category. For instance, given the category "article of clothing," the teacher might say the following three sounds: "/h/-/a/-/t/." Children's attempts to blend the sounds together to say "hat" are applauded and the game continues. Eventually, children may become the leaders and take turns providing their peers with segmented words for blending.

Categories may be selected to relate to curriculum areas under investigation (e.g., "I'm thinking of one of the types of sea animals we have been learning about—it is a /c/-/r/-/a/-/b/") or as an extension of integrated literacy experiences. When teaching about bears and their habitats, teachers may encourage children to write about bears, listen to stories about bears, view films about bears, create art projects involving bears, and learn poems and songs about bears. After singing the song, "The bear went over the mountain," children may play the guessing game to hypothesize the kinds of things seen by the bear on his outing (*A Treasury of Literature*, 1995)—"he saw a /t/-/r/-/ee/."

Common children's songs can be easily altered to emphasize the sounds of language. For instance, the initial sounds of words can be substituted. Instead of "merrily, merrily, merrily, merrily" in "Row, Row, Row Your Boat," children can suggest other sounds to insert in the initial position—"jerrily, jerrily, jerrily, jerrily" or "terrily, terrily, terrily, terrily." Young children often find such manipulations of sounds amusing and are likely to be heard singing nonsensical lyrics on the playground.

Concrete objects may help children attend to the sounds in speech. Elkonin boxes have been used in Reading Recovery to help low achieving readers focus on the sounds in words (Clay, 1985). A series of connected boxes are drawn across a page. The number of boxes corresponds to the number of sounds in a target word. The word *chick*, for example, is represented by three boxes. As the teacher slowly says the word, he or she models moving an object such as a chip into each box (from left to right) as each sound is articulated. The child eventually takes over the process of articulating the word and moving the objects into place.

Ultimately, the moving of chips into the boxes is replaced by the writing of letters in the boxes. (In the case of *chick* two letters are written in the first box because two letters spell the first sound: *ch*. Likewise, two letters are written in the third and final box: *ck*.) This activity is purposeful in the larger context of literacy acquisition when used to support children as they attempt to record thoughts or communicate in writing. (For a similar activity to facilitate phonemic awareness and support invented spelling, see Cunningham & Cunningham, 1992.)

Note that these activities fit into a meaning-based framework. Phonemic awareness should not be addressed as an abstract isolated skill to be acquired through drill type activities. It can be a natural, functional part of literacy experiences throughout the day.

Use of the test

The Yopp-Singer Test of Phoneme Segmentation was designed for use with English speaking kindergarteners. It may be used as a general assessment tool in order for teachers to learn more about their students and so develop suitable experiences; or it may be used selectively as teachers observe individual children experiencing difficulty with literacy-related tasks. Certainly, it need not be administered to the child who is already reading. Independent reading implies the existence of phonemic awareness. Further, phonemic awareness is not an end to itself—rather, it is one aspect of literacy development.

First-grade teachers, too, may wish to administer the test to students at the beginning of the school year in order to determine the phonemic awareness needs of the children in the classroom. Reading/language arts specialists or clinicians who work with children experiencing difficulty in literacy acquisition may also wish to assess their students' phonemic awareness as part of a larger diagnostic survey. And, although there are currently no data regarding the use of this particular test with older populations, we know that often older nonreaders lack phonemic awareness.

This instrument may be helpful to teachers of older individuals, including adult emerging readers, as they begin to build a profile of the strengths and needs of the individuals with whom they work. If phonemic awareness is poor, then it is appropriate to include activities that support its development in the larger picture of literacy experiences.

Should students who are limited in English proficiency be given this test? There are no data on using this test with an EL (English learner) population. Further, the issue is problematic since not only is there a potential problem with understanding task directions and familiarity with vocabulary (recall that the items on the test were selected, in part, on the basis of word familiarity), but there is also the possibility that performance on the test could be influenced by the fact that some speech sounds that exist in the English language may not exist in a student's dominant language.

Research does indicate that phonemic awareness is a critical variable in languages that have an alphabetic orthography (i.e., ones that map speech at the level of the phoneme rather than larger units). Therefore, the ideas presented in this article apply to children learning to read in an alphabetic script. The next step for educational researchers, therefore, is to develop reliable, valid assessment tools in other alphabetic languages to help teachers working with populations of children who are reading in languages other than English.

Conclusion

One of many insights that individuals must gain along the path to literacy is phonemic awareness. Research has shown that phonemic awareness is a more potent predictor of success in reading than IQ or measures of vocabulary and listening comprehension, and that if it is lacking, emergent readers are unlikely to gain mastery over print. However, teachers can provide activities that facilitate the acquisition of phonemic awareness. With an assessment device readily available, practitioners can quickly identify those children who may benefit most from phonemic awareness activities and reduce the role that one factor—phonemic awareness—plays in inhibiting their success in reading and spelling.

Previously a kindergarten and first-grade teacher, Yopp now teaches courses in reading and language arts education in the Department of Elementary and Bilingual Education at California State University, Fullerton, CA 92634, USA.

References

Adams, M.J. (1990). *Beginning to read: Thinking and learning about print.* Cambridge, MA: MIT Press.

Ball, E.W., & Blachman, B.A. (1991). Does phoneme segmentation training in kindergarten make a difference in early word recognition and developmental spelling? *Reading Research Quarterly, 26,* 49-66.

Bradley, L., & Bryant, P. (1983). Categorizing sounds and learning to read: A causal connection. *Nature, 301,* 419-421.

Bradley, L., & Bryant, P. (1985). *Rhyme and reason in reading and spelling.* Ann Arbor, MI: University of Michigan Press.

Cameron, P. (1961). *"I can't," said the ant.* New York: Coward-McCann.

Clay, M.M. (1985). *The early detection of reading difficulties* (3rd ed.). Portsmouth, NH: Heinemann.

Cunningham, A.E. (1990). Explicit versus implicit instruction in phonemic awareness. *Journal of Experimental Child Psychology, 50,* 429-444.

Cunningham, P.E., & Cunningham, J.W. (1992). Making Words: Enhancing the invented spelling-decoding connection. *The Reading Teacher, 46,* 106-115.

Griffith, P.L., Klesius, J.P., & Kromrey, J.D. (1992). The effect of phonemic awareness on the literacy development of first grade children in a traditional or a whole language classroom. *Journal of Research in Childhood Education, 6,* 86-92.

BEST COPY AVAILABLE

Griffith, P.L., & Olson, M.W. (1992). Phonemic awareness helps beginning readers break the code. *The Reading Teacher, 45*, 516-523.

Hills, J.R. (1981). *Measurement and evaluation in the classroom* (2nd ed.). Columbus, OH: Charles E. Merrill.

Jensen, A.R. (1980). *Bias in mental testing.* New York: Free Press.

Juel, C. (1988). Learning to read and write: A longitudinal study of 54 children from first through fourth grades. *Journal of Educational Psychology, 80*, 437-447.

Juel, C., & Leavell, J.A. (1988). Retention and nonretention of at-risk readers in first grade and their subsequent reading achievement. *Journal of Learning Disabilities, 21*, 571-580.

Liberman, I.Y., Shankweiler, D., Fischer, F.W., & Carter, B. (1974). Explicit syllable and phoneme segmentation in the young child. *Journal of Experimental Child Psychology, 18*, 201-212.

Lie, A. (1991). Effects of a training program for stimulating skills in word analysis in first-grade children. *Reading Research Quarterly, 23*, 263-284.

Lundberg, I., Frost, J., & Petersen, O. (1988). Effects of an extensive program for stimulating phonological awareness in preschool children. *Reading Research Quarterly, 23*, 263-285.

Mattingly, I.G. (1984). Reading, linguistic awareness, and language acquisition. In J. Downing & R. Valtin (Eds.), *Language awareness and learning to read* (pp. 9-25). New York: Springer-Verlag.

Perfetti, C., Beck, I., Bell, L., & Hughes, C. (1987). Phonemic knowledge and learning to read are reciprocal: A longitudinal study of first grade children. *Merrill-Palmer Quarterly, 33*, 283-319.

Seuss, Dr. (1963). *Dr. Seuss's ABC.* New York: Random House.

Seuss, Dr. (1974). *There's a wocket in my pocket.* New York: Random House.

Share, D., Jorm, A., Maclean, R., & Matthews, R. (1984). Sources of individual differences in reading acquisition. *Journal of Educational Psychology, 76*, 1309-1324.

Spector, J.E. (1992). Predicting progress in beginning reading: Dynamic assessment of phonemic awareness. *Journal of Educational Psychology, 84*, 353-363.

Stanovich, K.E. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. *Reading Research Quarterly, 21*, 360-407.

Stanovich, K.E. (1994). Romance and reason. *The Reading Teacher, 47*, 280-291.

A treasury of literature. (1995). Orlando, FL: Harcourt Brace.

Treiman, R., & Baron, J. (1983). Phonemic-analysis training helps children benefit from spelling-sound rules. *Memory and Cognition, 11*, 382-389.

Tunmer, W., Herriman, M., & Nesdale, A. (1988). Metalinguistic abilities and beginning reading. *Reading Research Quarterly, 23*, 134-158.

Yopp, H.K. (1988). The validity and reliability of phonemic awareness tests. *Reading Research Quarterly, 23*, 159-177.

Yopp, H.K. (1992a). A longitudinal study of the relationships between phonemic awareness and reading and spelling achievement. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA, USA.

Yopp, H.K. (1992b). Developing phonemic awareness in young children. *The Reading Teacher, 45*, 696-703.

Yopp, H.K. (1995). Read-aloud books for developing phonemic awareness: An annotated bibliography. *The Reading Teacher, 48*, 538 – 542.

Monitoring and Evaluating Children's Reading

Making Progress

The most useful way of monitoring reading progress and getting a true picture of both what a child can do at a particular point in time, and what a child has learned to do over a period of time is to take a Record of Reading Behaviour. From such a record you can gain information on the children's control of the reading process as evidenced by their ability to search for and use cues from the meaning, the structure, and the visual and phonological information, and also the children's use of strategies such as monitoring, searching, and self correction.

The Record of Reading Behaviour

The Record of Reading Behaviour is based on the work of Marie Clay and Kenneth Goodman who pioneered the concept of close observation of children's behaviour, especially as it relates to the type of miscues children make as they read.

Steps for taking the record and analysing the record

1 Selecting the text

The text you choose for the record will depend on your purpose. For instance if you want to see how well the child is reading at his or her current instructional level, you will choose a book that the child has already read. If you want to see if the child is able to cope with more difficult material, you will choose a book from the current instructional level that the child has not seen before.

2 Introducing the text

Children should be given an introduction to any text that they are being asked to read to help them make sense of the author's message. Before taking a record on a story that the child has read before, you may need to do no more than introduce the text by supplying the title. If the child is unfamiliar with the book, you should give the child the title and a one- or two-sentence summary of the plot and theme. For example, "This is a story called *Buster McCluster*. It's about a man who planted some sprouts and didn't watch for bugs. When he cooked them, all the bugs popped out and gave his wife a fright." If the story contains any particularly difficult syntax or vocabulary, some account of these should be incorporated in your introduction.

3 Taking the record

Choose a passage of 100 to 150 words (unless the entire book contains fewer words). Sit the child beside you so that you can see the text. Some teachers like to photocopy the text so that they can make notations on a copy of the text. If using photocopies, be careful not to get into the habit of fitting the child to the text you have photocopied, rather than using material that is appropriate to the child. Where children are experiencing difficulties, it is easier to record their efforts on a blank Record of Reading Behaviour, rather than be constrained by the small space afforded by a photocopy of the text.

After your introduction, the child should read the text independently. You must resist all temptations to teach while you are taking the record, as any intervention except telling the child an unknown word will distort the interpretation of the record. You need to remember that you are looking closely at what the children can do by themselves.

Source: Depree, Helen, and Sandra Iverson. 1994. "Monitoring and Evaluating Children's Reading." In *Early Literacy in the Classroom.* Bothell, Wash.: Wright Group Publishing, Inc., 55–58, 61–62. Reprinted by permission of the publisher.

While the child reads the text, you use the suggested notations to record all the reading behaviours the child exhibits.

✓✓✓✓✓✓	correct reading
✓✓✓✓✓ $\frac{\text{shop}}{\text{store}}$	miscue
✓✓✓✓ $\frac{\text{big}}{\text{—}}$ ✓	insertion
✓✓✓ $\frac{\text{—}}{\text{not}}$ ✓✓	omission
✓✓✓✓R✓	repeats one word
✓✓✓✓R✓	repeats phrase
✓✓✓✓ $\frac{\text{shop}\,\vert\,\text{SC}}{\text{store}\,\vert}$	self corrects
✓✓✓✓ $\frac{\quad\,\vert\,\text{A}}{\text{store}\,\vert}$	appeals for help
✓✓✓✓ $\frac{\quad\,\vert}{\text{store}\,\vert\,\text{T}}$	teacher tells

The *A appeal* and the *T told* often go together like this:

✓✓✓✓ $\frac{\quad\,\vert\,\text{A}}{\text{store}\,\vert\,\text{T}}$

It is important that you allow enough wait time to give the child a chance to work on a problem before telling, but also important that you do not wait so long that the child loses the meaning of the story while trying to solve the unknown word. A neutral comment in such an instance to help keep the process going is to say to the child "You try it."

Very occasionally you may need to tell a child to "Try that again." This instruction is confined to instances where the child is way off track and in great difficulty and has no chance of regaining the meaning without help. For example:

[✓ $\frac{\text{went}}{\text{watched}}$ ✓ $\frac{\text{nab}\quad\text{cat}}{\text{mower cut}}$] TTA

We watched the mower cut.

Place square brackets around the text causing difficulty and ask the child to read that passage again. All the text in the square brackets is then scored as only one error and the new response from the child is scored in the usual fashion. For example:

[✓ $\frac{\text{went}}{\text{watched}}$ ✓ $\frac{\text{nab}\quad\text{cat}}{\text{mower cut}}$] TTA

✓ $\frac{\quad\,\vert\,\text{A}}{\text{watched}\,\vert\,\text{T}}$ ✓ $\frac{\text{man}}{\text{mower}}$ ✓ New reading

✓✓✓

We watched the mower cut the tall grass.

At points of error, always note the child's response on top and the text below. While you are learning, use a pencil, space the check marks well while still matching them to the number of words in the line, and write down as much as possible of what the child says. You can always fill in the text later. You may also wish to tape the reading for further reference. As you become more proficient with your observations, you will notice more and more behaviours. Practice is the key to success.

4 Retelling the story

To check the child's level of comprehension in relation to the plot, the setting, the characters, and any underlying inferences, you should invite the child to retell the story in his or own words when they have completed the reading. You may need to follow this retelling with questions to elicit further information.

5 Calculating the reading level and the self-correction rate

The purpose of calculating the reading level is to tell you if the book is at a level at which the child can read independently, or with guidance, or if it is at a level which will merely frustrate the child. An accuracy score of 95-100% suggests that the child is able to read this and any material of similar difficulty easily and independently. The purpose of calculating the self-correction rate is to give you some guidance as to how well the child is able to both notice and correct errors during reading.

An accuracy score of 90-94% suggests that this text and texts at a similar level will present challenges that the child will be increasingly able to control with your guidance in an instructional reading situation.

An accuracy score of less than 89% suggests that the material you have chosen is too hard for the child to control alone and that you should use such material in a Shared Reading situation or that you should read it to the child.

6 Scoring the record

Substitutions, insertions, omissions, and teacher-told responses score as errors. Repetitions are not scored as errors. Corrected responses are scored as self-corrections.

These is no penalty for attempts that end in a correct response:

w w went
went

Multiple, unsuccessful attempts at a word score as one error only:

will we when
went

If there are alternative ways of scoring, credit the child with the fewest errors. The lowest score for any page is zero.

If a child omits a line or lines, each word omitted is counted as an error. If the child omits a page, deduct the number of words omitted from the number of words that you have used for the record. If the child repeatedly makes an error with a proper noun (the name of a person or a place), count this as an error the first time only. All other incorrect responses count as errors each time.

Paul
Peter if repeated five times counts as one error.

looks
looked if repeated five times counts as five errors.

Pronunciation differences are not counted as reading errors unless accompanied by incorrect locating responses.

7 Calculating the reading level

Note the number of errors made on each line on the Record of Reading Behaviour in the column marked E. Total the number of errors in the text and divide this into the number of words that the child has read. This will give you an error rate. For example, if the child read 100 words and made 10 errors, the error rate would be 1 in 10. Convert this to an accuracy percentage using the Error Rate/Accuracy Percentage Table in the Appendix, and fill in the appropriate box on the Record of Reading Behaviour.

8 Calculating the self-correction rate

Note the number of self-corrections in each line in the column marked SC on the Record of Reading Behaviour, and total them. Add the number of errors to the number of self-corrections and divide by the number of self-corrections. For example, if the child makes 10 errors and 5 self-corrections:

$$\frac{10+5}{5} = \frac{15}{5} \text{ or } 1:3$$

Thus for every 15 errors made, 5 were corrected, which gives a self-correction rate of 1 in 3. Or put another way, the child corrected 1 of every 3 errors made. A self-correction rate of 1 in 3 to 1 in 5 is considered good, and tells you that the child is not only noticing, but is able to do something about discrepancies while reading.

9 Analysing the record

The purpose of analysing the Record of Reading Behaviour is to enable you to draw together a picture of reading behaviour related to the processes involved in getting meaning from print. From this analysis, you can adjust and monitor your teaching program.

Analysis of the reading record can be broken down into eight steps.

i For each error and self-correction, read the sentence up to the point of error and ask yourself what led the child to make this mistake. Try to determine if the child was using cues from the meaning (semantics), the structure of the language (syntax), the visual information contained in the print (graphophonics), or a combination of these.

ii For each self-correction, ask yourself what led the child to correct this error.

iii Look to see which cue(s) the child uses predominantly. As you analyse each child's subsequent records, you will see patterns emerging that show you how well the child is integrating cues.

iv Look at the child's behaviour at an unknown word. Does the child make no attempt, seek your help, reread, read on, or make some attempt using one or more of the cues? Circle the predominant behavour on the Record of Reading Behaviour.

v Follow the same procedure to see what the child typically does after an error. Circle the predominant behaviour.

vi If the child is still reading at the emergent level, note directionality and one-to-one matching behaviours.

vii Note the child's understanding of, and memory for, the characters, setting, plot, and inferences. The ability to retell at least three-quarters of the story, either unaided or in response to your questions, is considered adequate.

viii Draw all this information together and use it to guide your teaching focus for this child.

There can be several outcomes from this analysis.

You may like to take a more balanced approach to the teaching of reading. If you find that most of your children exhibit only the same narrow range of strategies when reading text independently, it may suggest that the focus of your teaching has been on these, rather than a wider, more balanced approach.

A certain strategy might become the focus of a class or group shared-book experience. For example, you may find that you have had to tell some of the children many of the words in the text. During your next shared-book lesson, you will be able to model effective strategies for figuring out unknown words.

A group of children at different stages of reading acquisition, who have a common need, could be formed. For example, you may find that some children are reading in a stilted, word-by-word manner. You can draw these children from across a range of reading abilities to give them extra practice in reading fluently.

You could institute different teaching emphases for children reading at the same level of difficulty. The following two completed Records of Reading Behaviour show children reading the same text using different strategies to solve their reading problems. They will each need a different teaching approach. The text they worked from follows:

Rico lived in a big city
And he ran a flower shop.
Rico loved his flowers
for the flowers were very quiet
And Rico loved quiet.
But the city where Rico lived
was not quiet.
If he saw a car or bus, Rico yelled,
"Quiet! Why can't you be quiet?"
Then he said to himself,
"Rico you don't like this city.
Why don't you move away?"
But Rico didn't move out of the city.

RECORD OF READING BEHAVIOUR

Name:	Susan	**Title:**	Colours
Age:		**Series:**	Mac Millan Seen
Date:	5/6/93	**Stage:**	1:2 [✓ Unseen]

Calculations

Error Rate RW/E = 1: 75/3   1:25

Accuracy %   96%

S/C Rate (E + SC)/SC = 1: (3+6)/6   1:1.5

Level: [✓ Easy] Instr Hard

Understanding from Retelling/Questioning

Characters [✓ Yes] .... No

Setting [✓ Yes] .... No

Plot [✓ Yes] .... No

Inferences [✓ Yes] .... No

Competencies (circle predominant behaviours)

[✓ 1 on 1 matching] [✓ Directionality] Fluent Reading

At an unknown word

Makes no attempt   Seeks help   [✓ Reruns]   Reads on

Attempts using   [✓ Letter/sound knowledge]   [✓ Meaning]   [✓ Syntax]

After an error

Ignores   Seeks help   [✓ Reruns]   [✓ Attempts s/c]

Self-corrects using   [✓ Letter/sound knowledge]   [✓ Meaning]   [✓ Syntax]

Rico and the Red Pony	E	SC	E	SC
			msv	msv
✓ ✓ ✓ ✓ R dig/big country/city | SC	1	1	m s ⓥ ⓜⓢⓥ	 m s ⓥ
✓ ✓ ✓ ✓ R2 f ✓ stop/shop | RSC		1	m ⓢⓥ	ⓜ s ⓥ
✓ lived/loved R ✓ RSC ✓		1	m ⓢⓥ	ⓜ s v
✓ ✓ ✓ ✓ ✓ qu/quiet ✓				
✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ R —/where | T	1			
✓ ✓ ✓				
It/If | SC ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓		1	ⓜⓢⓥ	m s ⓥ

	E	SC	E msv	SC msv
✓ way / why ✓ RSC ✓ ✓ ✓		1	m s ⓥ	ⓜ ⓢ v
✓ ✓ ✓ ✓ ✓				
✓ ✓ did / dont ✓ ✓ ✓	1		m ⓢ v	
way / why | sc ✓ ✓ mm / move ✓ ✓		1	m s ⓥ	ⓜ ⓢ v
✓ ✓ did / didn't ✓ ✓ ✓ ✓ ✓ ✓				
	3	6		
TOTAL				

Susan had not seen the story before and although her teacher had introduced it to her, her reading was very stilted. At unknown words, Susan reran the sentence, phrase, or word in order to gather up the meaning, and used this with her knowledge of language and letter sound relationships to predict what might come next. After errors, she attempted to correct her reading herself. Her retelling showed an understanding of characters, setting, plot, and inferences. Her accuracy was 96%.

Susan needs a program that equips her with strategies that promote and maintain fluency so that, using her prior knowledge, her oral language, and her knowledge of print, she can process the text more quickly. Her teacher's prompts will be towards reading more like she talks. Her teacher will ensure that Susan gets lots of fluent reading practice on familiar material and, if necessary, will model the behaviour required to make it explicit.

Appendix D.

English Language Learners

Phonics for Spanish Speakers

Well-designed and well-implemented phonics instruction should be a component of . . . reading programs [for pupils whose initial reading instruction is taught through the medium of Spanish] just as it is for English reading programs. Reading any alphabetic writing system requires proficiency in connecting print with speech. Programs for Spanish speakers are similar to and different from those for English in specific ways:

- In both languages, phonic knowledge is essential. Spanish lends itself to phonics instruction more naturally than English does because it is more predictable in its spelling patterns.
- Although both languages should employ systematic, sequential teaching of sound-symbol relationships, the sequence of Spanish instruction is different. It makes sense to teach the five vowels first, then consonants and open syllables. In English consonants are taught first, then short vowels (usually), and then closed syllables. The order of instruction is based on the properties of each language and what children find easiest to learn.
- If children have difficulty with syllable units in Spanish, they should then receive direct instruction in the individual speech sounds and their symbols; phonemic awareness must be sufficient to support learning to read with syllable units.
- Direct, explicit instruction in sound-symbol relationships is more effective with more children than are incidental or imbedded phonics approaches.
- Phonics instruction must use familiar words and culturally appropriate language for speakers of each language. Dictations from that language are useful for practice.
- Phonics instruction in either language needs to be active, verbal, and interesting. It should not be relegated to silent, independent seat work.
- Children who speak either language need guided practice of skills and many opportunities to apply them in meaningful reading and writing activities.
- Development of proficient phonics and other word identification skills is essential and necessary for skillful reading, but success in reading also depends on vocabulary, reasoning ability, background knowledge, and appreciation of the written word.
- Thematic unity between the English and Spanish reading programs enables them to be used side by side in the classroom or school.

References

Bradley, L., and P. Bryant. 1985. *Rhyme and Reason in Reading and Spelling.* Ann Arbor: University of Michigan Press.

Braslavsky, B. 1995. "El entorno y el maestro en diversas perspectívas de la alfabetización inicial." *Lectura y Vida* 16 (1): 5–12.

Bridge, C.; P. Winograd; and D. Haley. 1983. "Using Predictable Materials vs. Preprimers to Teach Beginning Sight Words." *The Reading Teacher* 36: 884–91.

De Braslavsky, B. P.; N. Natali; and N. Rosen. 1991. "Alfabetización emergente y efectos de la enseñanza." *Lectura y Vida* 10 (1): 10–19.

De Manrique, A. M. B., and S. Gramigna. 1984. "La segmentación fonológica y silábica en niños de preescolar y primer grado." *Lectura y Vida* 5 (1): 4–14.

Durgunoglu, A. Y.; W. E. Nagy; and B. J. Hancin-Bhatt. 1993. "Cross-Language Transfer of Phonological Awareness." *Journal of Educational Psychology* 85: 453–65.

Ehri, L. 1990. "The Development of the Ability to Read Words," in *Handbook of Reading Research*, Vol. 2. Edited by R. Barr, et al. New York: Longman.

Ferreiro, E. 1993. *La alfabetización de los niños en la última década del siglo.* Quito, Ecuador: Instituto Fronesis.

Ferreiro, E. 1991. "La construcción de la escritura en el niño." *Lectura y Vida* 12 (3): 5–14.

Goldenberg, C. 1996. "A Balanced Approach to Early Spanish Literacy Instruction," in *Effective Instructional Strategies of English Language Learners: Implications of Current Research.* Edited by R. Gersten and R. Jimenex. Pacific Grove, Calif.: Brooks/Cole Publishing Co.

Goswami, U. 1994. "Rhyme, Analogy, and Children's Reading," in *Reading Acquisition.* Edited by P. Gough, L. C. Ehri, and R. Treiman. Hillsdale, N.J.: Erlbaum.

Kaufman, A. M. 1993. "Lengua en grados medios y superiores: Aspectos psicogenéticos y didácticos." *Lectura y Vida* 14 (1): 27–41.

Stahl, S. A. 1992. "Saying the 'P' Word: Nine Guidelines for Exemplary Phonics Instruction." *The Reading Teacher* 45 (8): 618–25.

Tunmer, W.; M. Herriman; and A. Nesdale. 1988. "Metalinguistic Abilities and Beginning Reading." *Reading Research Quarterly* 23: 134–58.

Vargas Ortega, R. 1996. "El inicio de la alfabetización en niños tzotziles." *Lectura y Vida* 17 (2): 27–35.

Source: "Phonics for Spanish Speakers," in *Learning to Read: Components of Beginning Reading Instruction, K–3.* 1997. Sacramento: Sacramento County Office of Education Comprehensive Reading Leadership Center. Reprinted by permission of the publisher and the author, Louisa Moats.

The work of Margarita Calderon, Alan Crawford, David and Yvonne Freeman, Gilbert Garcia, John Pikulski, and Tina Saldivar, authors of *Invitaciones* 1997 (Boston: Houghton Mifflin), in the preparation of this summary is gratefully acknowledged.

BEST COPY AVAILABLE

Multilingual and Multicultural Resources

This appendix contains information about resources available from the California Department of Education and from other organizations in California and nationwide.

Resources from the California Department of Education

- ***Bilingual education publications.*** The Department has prepared a number of publications regarding multilingual issues. Information on these materials appears in *An Annotated List of Publications in Bilingual Education,* which lists more than 50 major documents. This 16-page booklet, Item No. 1146, is available at no charge from the California Department of Education, Publications Division, Sales Office, P.O. Box 271, Sacramento, CA 95812-0271; 1-800-995-4099.
- ***Framework.*** *Reading/Language Arts Framework* (1999).
- ***Programs.*** The California Department of Education, Language Policy and Leadership Office, 721 Capitol Mall, Sacramento, California (mailing address: P.O. Box 944272, Sacramento, CA 94244-2720); 916-657-2566. The Office administers federal and state programs that address the planning, design, implementation, and evaluation of educational programs for students from non-English language backgrounds.
- ***Guidance material.*** *Educating English Learners for the Twenty-First Century: The Report of the Proposition 227 Task Force* (1999) presents information and recommendations for educators who work with English learners.
- ***Training materials.*** A series of training materials was produced in 1998 for the California Department of Education, Child Development Division by the Santa Cruz County Office of Education and by Barry McLaughlin, Director of the National Center for Research on Cultural Diversity and Second Language Learning, University of California, Santa Cruz. The materials include two resource guides, *Fostering the Development of a First and a Second Language in Early Childhood* and *Assessing the Development of a First and a Second Language in Early Childhood;* two videos, *Talking with Preschoolers: Strategies for First and Second Language Development* and *Observing Preschoolers: Assessing First and Second Language Development;* and a training manual, *Assessing and Fostering the Development of a First and a Second Language in Early Childhood: Training Manual.* The materials may be ordered from the California Department of Education, Publications Division, Sales Office, P.O. Box 271, Sacramento, CA 95812-0271; 1-800-995-4099.
- ***Videos and print materials.*** Videos and print materials on infant/toddler caregiving topics produced by the California Department of Education, Child Development Division, are available. A particularly relevant one is *Infant/Toddler Caregiving: A Guide to Culturally Sensitive Care,* published in 1995.

Resources from Other Organizations

- California Association for Bilingual Education (CABE), 926 J Street, Suite 810, Sacramento, CA 95814; 916-447-3986. A professional association, CABE sponsors an annual conference and provides policy discussions, a newsletter, and regional networks.
- Multifunctional Resource Centers provide training, information, and support to schools in the area of language-minority students, their parents, and school personnel. The address for the northern center is 310 Eighth Street, Suite 301, Oakland, CA 94607; 510-834-9458. The southern center is at California Polytechnic State University, 3801 W. Temple Avenue, Pomona, CA 91768; 909-869-4919.
- National Center on Cultural Diversity and Second Language Learning, Kerr Hall, University of California, Santa Cruz, CA 95064; 408-459-3500. This center promotes intellectual development, literacy, and thoughtful citizenship among language-minority students, hosts conferences, and publishes research studies.
- National Clearinghouse for Bilingual Education, 8737 Colesville Road, #900, Silver Spring, MD 20910; 1-800-647-0123. This information center provides curriculum and reference and referral services on all aspects of bilingual and ESL instruction.
- New England INDEX—Multilingual/Multicultural Resource Directory, Eunice Kennedy Shriver Center, 200 Trapelo Road, Waltham, MA 02254. This organization provides information and referral services through its database of resource persons and services for people with various linguistic and cultural backgrounds. INDEX has a listing of people who can provide help for those who work with children and parents whose first language is not English.
- Teachers of English to Speakers of Other Languages (TESOL), 1600 Cameron Street, Suite 300, Alexandria, VA 22314-2751; 703-836-0774. This association, while respecting language rights, promotes the teaching and learning of English. It produces periodicals, research studies, and professional development programs and holds an annual convention.
- Urban Teachers' Center, 79 Wannalancit Street, Lowell, MA 01854; 508-975-2774. The center provides curriculum materials and a resource library to teachers interested in native-language and second-language literacy development. In particular, the center has a good collection of multicultural literature for children from preschool through grade eight.
- San Francisco State University has published guidance material for educators about instructional strategies that are particularly effective with various ethnic groups. "Utilizing Culture in the Achievement of Educational Excellence for African American Students" is available from SFSU, Center for Applied Cultural Studies and Educational Achievement (415) 338-6236. Materials for use with Hispanic and African-American students may be ordered from SFSU, Special Education, (415) 338-1161.

Selected References

Accelerated Schools Program. Information can be found at the Web site address <http://www.stanford.edu/group/ASP/natlcenter.html>.

Actions for Health. 1992. Edited by K. Middleton. Santa Cruz, Calif.: ETR Network Publications.

Adams, M. J. 1990. *Beginning to Read: Thinking and Learning About Print.* Cambridge: Massachusetts Institute of Technology Press.

American Educator, Vol. 19, No. 2. 1995. (Issue is devoted to learning to read.) Washington, D.C.: American Federation of Teachers.

The American Indian: Yesterday, Today, and Tomorrow—A Handbook for Educators. 1991. Sacramento: California Department of Education.

Andress, B. 1995. "Transforming Curriculum in Music," in *Reaching Potentials: Transforming Early Childhood Curriculum and Assessment,* Vol. 2. Edited by S. Bredekamp and T. Rosegrant. Washington, D.C.: National Association for the Education of Young Children.

"Appropriate Assessment Practices for Young Children," Child Development Division Program Advisory No. FSB 92/93-01. 1992. Sacramento: California Department of Education.

"Art as Understanding," in *The Arts and Cognition.* 1977. Edited by D. Perkins and B. Leondar. Baltimore: Johns Hopkins University Press.

Art Really Teaches (Second edition). 1998. San Mateo: California Kindergarten Association.

Arts Education Partnership. Information can be found at the Web site address <http://artsedge.kennedy-center.org/artsedge.html>.

Assessing Literacy with the Learning Record: A Handbook for Teachers, K–6. 1999. Portsmouth, N.H.: Heinemann.

Assessing the Development of a First and a Second Language in Early Childhood. 1998. Sacramento: California Department of Education.

Assessment in Elementary School Science Education. 1989. Washington, D.C.: National Center for Improving Science Education.

Ballenger, C. 1992. "Teaching and Practice: Because You Like Us—The Language of Control," *Harvard Educational Review,* Vol. 62, No. 2, 199–208.

Baylor, B. 1975. *The Desert Is Theirs.* New York: Simon and Schuster Children's.

Beals, D.; J. DeTemple; and D. Dickinson. 1994. "Talking and Listening that Support Early Literacy Development of Children from Low-Income Families," in *Bridges to Literacy: Children, Families, and Schools.* Edited by D. K. Dickinson. Cambridge, Mass.: Blackwell.

Bell, N. 1991. *Visualizing and Verbalizing for Language Comprehension and Thinking* (Revised edition). Paso Robles, Calif.: Academy of Reading Publications.

Benard, B. 1991. *Fostering Resiliency in Kids: Protective Factors in the Family, School, and Community* (ED 355 781). San Francisco: FarWest Laboratory for Educational Research and Development.

Note: Some of the references cited in this material may no longer be in print or otherwise available. The publication data listed herein were provided by the Model Programs and Networks Office of the Elementary Education Division, California Department of Education. Questions about the materials should be addressed to the Model Programs and Networks Office at (916) 657-2926.

Berk, L. E., and A. Winsler. 1995. *Scaffolding Children's Learning: Vygotsky and Early Childhood Education.* Washington, D.C.: National Association for the Education of Young Children.

Beyond Retention: A Study of Retention Rates, Practices, and Successful Alternatives in California. 1993. Sacramento: California Department of Education.

Biber, B.; E. Shapiro; and D. Wickens. 1977. *Promoting Cognitive Growth: A Developmental-Interaction Point of View* (Second edition). Washington, D.C.: National Association for the Education of Young Children.

Bissex, G. 1980. *GNYS at WRK: A Child Learns to Write and Read.* Cambridge: Harvard University Press.

Blumenfeld, P. C., et al. 1991. "Motivating Project-Based Learning: Sustaining the Doing, Supporting the Learning," *Educational Psychologist,* Vol. 26, 369–98.

Bodrova, E., and D. Leong. 1996. *Tools of the Mind: The Vygotskian Approach to Early Childhood Education.* Englewood Cliffs, N.J.: Merrill/Prentice Hall.

Bond, G. L., and R. Dykstra. 1967. "The Cooperative Research Program in First-Grade Reading Instruction," *Reading Research Quarterly,* Vol. 2, 5–142.

Boutte, G.; U. Van Scoy; and S. Hendley. 1996. "Multicultural and Nonsexist Prop Boxes," *Young Children,* Vol. 52, No. 1, 34–39.

Bowman, B. 1994. "The Challenge of Diversity," *Phi Delta Kappan,* Vol. 76, No. 3, 218–25.

Brandt, R. 1984. "Learning About Thinking," *Educational Leadership,* Vol. 42, No. 1, 3.

Brizius, J., and S. Foster. 1993. *Generation to Generation: Realizing the Promise of Family Literacy.* Ypsilanti, Mich.: High/Scope Press.

Bronfenbrenner, U. 1979. *The Ecology of Human Development: Experiments by Nature and Design.* Cambridge: Harvard University Press.

Brophy, J. 1992. "Probing the Subtleties of Subject-Matter Teaching," *Educational Leadership,* Vol. 49, No. 7, 4–8.

Bruner, J. S. 1983. *Child's Talk: Learning to Use Language.* New York: Norton.

Burns, M. 1992. *Math and Literature (K–3).* White Plains, N.Y.: Math Solutions Publications.

Burton, G., et al. 1991a. *First Grade Book,* Curriculum and Evaluation Standards for School Mathematics Addenda Series. Edited by M. Leiva. Reston, Va.: The National Council for Teachers of Mathematics.

Burton, G., et al. 1991b. *Kindergarten Book,* Curriculum and Evaluation Standards for School Mathematics Addenda Series. Edited by M. Leiva. Reston, Va.: The National Council for Teachers of Mathematics.

California Consortium to Prevent Child Abuse. Information can be found at <http://www.ccpca.org/>.

California Kindergarten Association. 1998. *Activities and Learning Strategies for Mathematics at the Kindergarten Level.* San Mateo: California Kindergarten Association.

California Strategic Plan for Parental Involvement in Education. 1992. Sacramento: California Department of Education.

Caring Communities: Supporting Young Children and Families. 1991. Alexandria, Va.: National Association of State Boards of Education (NASBE).

Case, R., and Y. Okamoto. 1996. *The Role of Central Conceptual Structures in the Development of Children's Thought.* Monographs of the Society of Research in Child Development, Vol. 61, No. 2, Serial No. 246. Chicago: University of Chicago Press.

Center for the Improvement of Early Reading Achievement at the University of Michigan. Information can be found at <www.ciera.org>.

Cervantes, R., and M. Giberga. 1989. *Suggested Activities Related to Language Development for Preschool-Age Children.* Sacramento: California Department of Education.

Chall, J. S. 1995. *Learning to Read: The Great Debate* (Second edition). Orlando, Fla.: Harcourt Brace College Publications.

Challenge Standards for Student Success: Health Education. 1998. Sacramento: California Department of Education.

Challenge Standards for Student Success: Physical Education. 1998. Sacramento: California Department of Education.

Challenge Standards for Student Success: Visual and Performing Arts. 1999. Sacramento: California Department of Education.

Chandler, P. 1994. *A Place for Me: Including Children with Special Needs in Early Care and Education Settings.* Washington, D.C.: National Association for the Education of Young Children.

Chapman, L. H. 1978. *Approaches to Art in Education.* New York: Harcourt Brace Jovanovich.

Charlesworth, R., et al. 1993. "The LSU Studies: Building a Research Base for Developmentally Appropriate Practice," in *Perspectives on Developmentally Appropriate Practice,* Vol. 5, *Advances in Early Education and Day Care.* Edited by S. Reifel. Greenwich, Conn.: JAI Press.

Chief Seattle. 1991. *Brother Eagle, Sister Sky: A Message from Chief Seattle.* New York: Dial.

Chittenden, E., and R. Courtney. 1989. "Assessment of Young Children's Reading: Documentation as an Alternative to Testing," in *Emerging Literacy: Young Children Learn to Read and Write.* Edited by D. S. Strickland and L. M. Morrow. Newark, Del.: International Reading Association.

Clay, M. 1987. *Writing Begins at Home.* Portsmouth, N. H.: Heinemann Educational Books.

Clay, M. 1991. "Introducing a New Storybook to Young Readers," *The Reading Teacher,* Vol. 45, No. 4.

Clay, M. 1993. *Reading Recovery: A Guidebook for Teachers in Training.* Portsmouth, N.H.: Heinemann.

Clemens, S. G. 1991. "Art in the Classroom: Making Every Day Special," *Young Children,* Vol. 46, No. 2, 4–11.

Consortium of National Arts Education Associations. 1994. *National Standards for Arts Education: What Every Young American Should Know and Be Able to Do in the Arts.* Reston, Va.: Music Educators National Conference.

Continuity for Young Children: Positive Transitions to Elementary School. 1997. Sacramento: California Department of Education.

Copple, C.; I. E. Sigel; and R. Saunders. 1984. *Educating the Young Thinker: Classroom Strategies for Cognitive Growth.* Hillsdale, N.J.: Erlbaum.

Cox, M. 1992. *Children's Drawings.* New York: Penguin.

Crabtree, C. 1989. "History Is for Children," *American Educator,* Vol. 13, No. 4, 34–43.

Crabtree, C. 1992. "The Social Studies: Elementary," in *Encyclopedia of Educational Research.* Edited by M. Alkin. New York: Macmillan.

Crary, E. 1984. *Kids Can Cooperate.* Seattle: Parenting Press.

Cuffaro, H. 1991. "A View of Materials as the Tests of the Early Childhood Curriculum," in *Yearbook in Early Childhood Education,* Vol. 2. Edited by B. Spodek and O. Saracho. New York: Teachers College Press.

Cummins, J. 1986. "Empowering Minority Students: A Framework for Intervention," *Harvard Educational Review,* Vol. 56, No. 1, 18–36.

Cunningham, P. M. 1995. *Phonics They Use: Words for Reading and Writing* (Second edition). New York: HarperCollins College Publishers.

Cunningham, P., and R. Allington. 1994. *Classrooms That Work: They Can All Read and Write.* New York: HarperCollins College Publishers.

D'Aoust, C. 1996. "Teaching Writing as a Process," in *Practical Ideas for Teaching Writing as a Process at the Elementary School and Middle School Levels* (Revised edition). Edited by C. B. Olson. Sacramento: California Department of Education.

Darling-Hammond, L., and B. Falk. 1997. "Using Standards and Assessments to Support Student Learning," *Phi Delta Kappan,* Vol. 79, No. 3, 190–99.

Delivering Results: A Progress Report on Brain Research. 1996. New York: Dana Press.

Depree, H., and S. Iversen. 1994. *Early Literacy in the Classroom: A New Standard for Young Readers.* Bothell, Wash.: Wright Group Publishing.

Derman-Sparks, L. 1992. "Reaching Potentials Through Anti-Bias, Multicultural Curriculum," in *Reaching Potentials: Appropriate Curriculum and Assessment for Young Children,* Vol. 1. Edited by S. Bredekamp and T. Rosegrant. Washington, D.C.: National Association for the Education of Young Children.

Derman-Sparks, L., and the ABC Task Force. 1989. *The Anti-Bias Curriculum: Tools for Empowering Young Children.* Washington, D.C.: National Association for the Education of Young Children.

Developmentally Appropriate Physical Education Practices for Children. 1992. A position statement of the Council on Physical Education for Children, National Association for Sport and Physical Education. Reston, Va.: American Alliance for Health, Physical Education, Recreation, and Dance.

Developmentally Appropriate Practice in Early Childhood Programs (Revised edition). 1997. Edited by S. Bredekamp and C. Copple. Washington, D.C.: National Association for the Education of Young Children.

Developmentally Appropriate Practice in Movement Programs for Young Children Ages 3–5. 1995. A position statement of the Council on Physical Education for Children, National Association for Sport and Physical Education. Reston, Va.: American Alliance for Health, Physical Education, Recreation, and Dance.

DeVries, R., and L. Kohlberg. 1987. *Constructivist Early Education: Overview and Comparison with Other Programs.* Washington, D.C.: National Association for the Education of Young Children.

Dewey, J. 1916. *Democracy and Education: An Introduction to the Philosophy of Education.* New York: Macmillan.

Dewey, J. 1966. *Democracy and Education: An Introduction to the Philosophy of Education.* New York: Free Press.

Dodge, D. T., and J. L. Colker. 1992. *The Creative Curriculum of Early Childhood* (Third edition). Washington, D.C.: Teaching Strategies.

Dole, J. A., et al. 1991. "Moving from the Old to the New: Research on Reading Comprehension Instruction," *Review of Educational Research,* Vol. 61, 239–64.

Douglas, N. J., and J. Schwartz. 1967. "Increasing Awareness of Art Ideas of Young Children Through Guided Experiences with Ceramics," *Studies in Art Education,* Vol. 8, No. 2, 1–8.

DuCharme, C. 1996. "Drawing to Write: The Role of Drawing in the Writing Processes of Kindergarten and Primary Grade Children," *Kindergarten Education: Theory, Research, and Practice,* Vol. 1, No. 2.

DuCharme, C. 1997. "Cross-Cultural Peer Interactions in a Two-Way Bilingual Immersion Kindergarten Classroom," *Kindergarten Education: Theory, Research, and Practice,* Vol. 2, No. 2.

Dunn, L., and S. Kontos. 1997. "Research in Review: What Have We Learned About Developmentally Appropriate Practice?" *Young Children,* Vol. 52, No. 5, 4–13.

Dweck, C. S. 1986. "Motivational Processes Affecting Learning," *American Psychologist,* Vol. 41, No. 10, 1040–48.

Dweck, C. S. 1987. "Children's Conceptions of Intelligence." Paper presented at the April 1987 conference of the American Educational Research Association, Washington, D.C.

Dweck, C. S. 1991. "Self-Theories and Goals: Their Role in Motivation, Personality, and Development," in *Perspectives on Motivation.* Edited by R. A. Dienstbier. Lincoln: University of Nebraska Press.

Dyson, A. H., and C. Genishi. 1993. "Visions of Children as Language Users: Language and Language Education in Early Childhood," in *Handbook of Research on the Education of Young Children.* Edited by B. Spodek. New York: Macmillan.

Educating English Learners for the Twenty-First Century: The Report of the Proposition 227 Task Force. 1999. Sacramento: California Department of Education.

"Educating Young Children: Next Steps in Implementing the School Readiness Task Force Report," Child Development Division Program Advisory No. FSB: 88/9-10. 1989. Sacramento: California Department of Education.

Ehri, L. C. 1991. "Development of the Ability to Read Words," in *Handbook of Reading Research,* Vol. 2. Edited by R. Barr, et al. New York: Longman.

Eisner, E. W. 1985. "Why Art in Education and Why Art Education?" in *Beyond Creating: The Place for Art in America's Schools.* Los Angeles: Getty Center for Education in the Arts.

Elley, W. B. 1998. "How First and Second Language Learners Acquire New Vocabulary," in *English Update.* Albany: State University of New York, Center on English Learning and Achievement.

English–Language Arts Content Standards for California Public Schools, Kindergarten Through Grade Twelve. 1998. Sacramento: California Department of Education. Information can be found at the Web site address <http://www.ca.gov>.

Erikson, E. 1963. *Childhood and Society.* New York: Norton.

Every Child a Reader: The Report of the California Reading Task Force. 1995. Sacramento: California Department of Education.

Exemplary Programs Criteria: A Process Guide for Improvement Through Collaboration. 1992. San Mateo: California Kindergarten Association.

Fact Sheet on Kindergartners in Mixed-Age Classes. 1995. Edited by D. Smith. San Mateo: California Kindergarten Association.

Family-Friendly Communication for Early Childhood Programs. 1996. Edited by D. Diffily and K. Morrison. Washington, D.C.: National Association for the Education of Young Children.

Feeney, S., and E. Moravcik. 1987. "A Thing of Beauty: Aesthetic Development in Young Children," *Young Children,* Vol. 42, No. 6, 7–15.

Fein, G. 1981. "Pretend Play: An Integrative Review," *Child Development,* Vol. 52, 1095–1118.

Fein, G., and L. Stork. 1981. "Sociodramatic Play: Social Class Effects in Integrated Classrooms," *Journal of Applied Developmental Psychology,* No. 2, 267–79.

Ferreiro, E. 1986. "The Interplay Between Information and Assimilation in Beginning Literacy," in *Emergent Literacy: Writing and Reading.* Edited by W. H. Teale and E. Sulzby. Norwood, N. J.: Ablex Publishing.

Ferreiro, E., and A. Teberosky. 1982. *Literacy Before Schooling.* Portsmouth, N.H.: Heinemann.

The Form of Reform: School Facility Design Implications for California Educational Reform. 1997. Sacramento: California Department of Education.

Forman, E. A.; N. Minick; and C. A. Stone. 1993. *Contexts for Learning: Sociocultural Dynamics in Children's Development.* New York: Oxford University Press.

Forman, G. E., and F. Hill. 1984. *Constructive Play: Applying Piaget in the Preschool* (Revised edition). Menlo Park, Calif.: Addison-Wesley.

Fostering the Development of a First and a Second Language in Early Childhood. 1998. Sacramento: California Department of Education.

Freeman, N. H. 1980. *Strategies of Representation in Young Children: Analysis of Spatial Skills and Drawing Processes.* New York: Academic Press.

Froebel, F. 1896. *Pedagogics of the Kindergarten.* New York: D. Appleton.

Fromberg, D. 1989. *The Full-Day Kindergarten.* New York: Teachers College Press.

Fromberg, D. 1992. "A Review of Research on Play," in *The Early Childhood Curriculum: A Review of Curriculum Research* (Second edition). Edited by C. Seefeldt. New York: Teachers College Press.

Gallahue, D. L. 1995. "Transforming Physical Education Curriculum," in *Reaching Potentials: Transforming Early Childhood Curriculum and Assessment,* Vol. 2. Edited by S. Bredekamp and T. Rosegrant. Washington, D.C.: National Association for the Education of Young Children.

Gallahue, D. L., and J. C. Ozmun. 1997. *Understanding Motor Development: Infants, Children, Adolescents, Adults.* Dubuque, Iowa: Brown and Benchmark.

Garbarino, J., et al. 1992. *Children in Danger: Coping with the Consequences of Community Violence.* San Francisco: Jossey-Bass.

Gardner, H. 1983. *Frames of Mind: The Theory of Multiple Intelligences.* New York: Basic Books.

Gentry, J. R., and J. W. Gillet. 1993. *Teaching Kids to Spell.* Portsmouth, N.H.: Heinemann.

Geography for Life: National Geography Standards (Executive summary). 1994. Washington, D.C.: National Geographic Society.

Getting Started in Science: A Blueprint for Elementary School Science Education. 1990. Colorado Springs: National Center for Improving Science Education.

Getty Education Institute for the Arts. Information can be found at the Web site address <http://www.artsednet.getty.edu>.

Goffin, S. G., and C. Q. Tull. 1985. "Problem Solving: Encouraging Active Learning," *Young Children,* Vol. 40, No. 3, 28–32.

Golumb, C. 1992. *The Child's Creation of a Pictorial World.* Berkeley: University of California Press.

Gonzalez-Mena, J. 1992. *Multicultural Issues in Child Care.* Mountain View, Calif.: Mayfield.

Goodlad, J. I., and R. H. Anderson. 1987. *The Non-Graded Elementary School* (Revised edition). New York: Teachers College Press.

Gordon, J. 1991. *Six Sleepy Sheep.* New York: Puffin Books.

Gossett, C. S. 1997. "Teaching Linear Measurement," *Kindergarten Education: Theory, Research, and Practice,* Vol. 2.

Graves, D. H. 1989. "Writing: Teachers and Children at Work," in *Emerging Literacy: Young Children Learn to Read and Write.* Edited by D. S. Strickland and L. M. Morrow. Newark, Del.: International Reading Association.

Greenberg, P. 1992. "How to Institute Some Simple Democratic Practices Pertaining to Respect, Rights, Responsibilities, and Roots in Any Classroom (Without Losing Your Leadership Position)," *Young Children,* Vol. 47, No. 5, 10–18.

Greenberg, P. 1993–94. "How and Why to Teach All Aspects of Preschool and Kindergarten Math" (Parts 1 and 2), *Young Children,* Vol. 48, No. 4, and Vol. 49, No. 2.

Greenman, J. 1988. *Caring Spaces, Learning Places: Children's Environments That Work.* Redmond, Wash.: Exchange Press.

Greenspan, S. I. 1992. *Infancy and Early Childhood: The Practice of Clinical Assessment and Intervention with Emotional and Developmental Challenges.* Madison, Conn.: International Universities Press.

Greenspan, S. I. 1997. *The Growth of the Mind and the Endangered Origins of Intelligence.* Reading, Mass.: Addison Wesley.

Greenspan, S. I., and S. Wider. 1997. *Facilitating Intellectual and Emotional Growth of Children with Special Needs.* Reading, Mass.: Addison Wesley.

A Guide to Program Development in Kindergarten, Part 1. 1988. Hartford: Connecticut State Department of Education.

Guralnick, M. J., and J. M. Groom. 1987. "The Peer Relations of Mildly Delayed and Non-Handicapped Preschool Children in Mainstreamed Play Groups," *Child Development,* Vol. 58, 1556–72.

Hamm, D. J. 1991. *How Many Feet in the Bed?* New York: Simon and Schuster Children's.

Handbook for Planning an Effective Writing Program, Kindergarten Through Grade Twelve. 1986. Sacramento: California Department of Education.

Harms, T., and R. Clifford. 1980. *Early Childhood Environmental Rating Scale.* New York: Teachers College Press.

Harris, V. J. 1991. "Research in Review: Multicultural Curriculum—African American Children's Literature," *Young Children,* Vol. 46, No. 2, 37–44.

Head Start Performance Standards. 1996. Washington, D.C.: U.S. Department of Health and Human Services.

Health Framework for California Public Schools, Kindergarten Through Grade Twelve. 1994. Sacramento: California Department of Education.

The Heart and Wisdom of Teaching: A Collection of Thought-Provoking Quotations for Teachers. 1997. Edited by E. Wright. San Francisco: Teaching from the Heart.

Hein, G. 1987. "The Right Test for Hands-On Learning?" *Science and Children,* Vol. 25, No. 2, 8–12.

Heine, H. 1982. *Friends.* New York: Macmillan Children's Group.

Heine, H. 1985. *The Pearl.* New York: Macmillan Children's Group.

Henderson, N. 1997. "Resiliency in Schools: Making It Happen," *Principal,* Vol. 77, No. 2. Alexandria, Va.: National Association of Elementary School Principals.

Hendricks, C., and C. J. Smith. 1995. "Transforming Health Curriculum," in *Reaching Potentials: Transforming Early Childhood Curriculum and Assessment,* Vol. 2. Edited by S. Bredekamp and T. Rosegrant. Washington, D.C.: National Association for the Education of Young Children.

Herb, S., and S. Willoughby-Herb. 1994. "Children's Oral Language Development," in *Using Children's Books in Preschool Settings: A How-to-Do-It Manual for School and Public Librarians.* New York: Neal-Schuman Publishers.

Herberholz, B., and L. Hanson. 1995. *Early Childhood Art* (Fifth edition). Madison, Wis.: Brown and Benchmark.

Here They Come: Ready or Not! Report of the School Readiness Task Force. 1988. Sacramento: California Department of Education.

Hiebert, E. 1981. "Developmental Patterns and Interrelationships of Preschool Children's Print Awareness," *Reading Research Quarterly,* Vol. 16, 236–60.

Hiebert, E. H., and B. M. Taylor. 1994. *Getting Reading Right from the Start: Effective Early Literacy Interventions.* Boston: Allyn and Bacon.

High Standards for All Students. 1994. Washington, D.C.: U.S. Department of Education.

History–Social Science Content Standards for California Public Schools, Kindergarten Through Grade Twelve. 1999. Sacramento: California Department of Education. Information can be found at the Web site address <http://www.cde.ca.gov>.

History–Social Science Framework for California Public Schools, Kindergarten Through Grade Twelve. 1997. Sacramento: California Department of Education.

Hitz, R., and A. Driscoll. 1988. "Praise or Encouragement? New Insights into Praise: Implications for Early Childhood Teachers," *Young Children,* Vol. 43, No. 5, 6–13.

Hohmann, M., and D. P. Weikart. 1995. *Educating Young Children: Active Learning Practices for Preschool and Child Care Programs.* Ypsilanti, Mich.: High/Scope Press.

Hohmann, M.; B. Banet; and D. P. Weikart. 1979. *Young Children in Action: A Manual for Preschool Educators.* Ypsilanti, Mich.: High/Scope Press.

Hohn, W., and L. Ehri. 1983. "Do Alphabet Letters Help Re-Readers Acquire Phonemic Segmentation Skill?" *Journal of Educational Psychology,* Vol. 75, 752–62.

Hubbard R. S., and B. M. Power. 1993. *The Art of Classroom Inquiry: A Handbook for Teacher-Researchers.* Portsmouth, N.H.: Heinemann.

Hutchins, P. 1997. *Rosie's Walk.* New York: Simon and Schuster Children's.

Improving Mathematics Achievement for All California Students: The Report of the California Mathematics Task Force. 1995. Sacramento: California Department of Education.

It's Elementary! Elementary Grades Task Force Report. 1992. Sacramento: California Department of Education.

Jalongo, M. 1996. "Teaching Young Children to Become Better Listeners," *Young Children,* Vol. 51, No. 2, 21–36.

Jamentz, K. 1998. *Standards: From Document to Dialogue.* San Francisco: Western Assessment Collaborative.

Jipson, J. 1991. "Developmentally Appropriate Practice: Culture, Curriculum, Connections," *Early Education and Development,* Vol. 2, No. 2, 120–36.

Johnson, A. 1989. *Tell Me a Story, Mama.* New York: Orchard Books.

Johnson, T. D., and D. R. Louis. 1990. *Bringing It All Together: A Program for Literacy.* Portsmouth, N.H.: Heinemann.

Johnston, P., and R. Allington. 1991. "Remediation," in *Handbook of Reading Research,* Vol. 2. Edited by R. Barr, et al. New York: Longman.

Jones, E. 1973. *Dimensions of Teaching-Learning Environments.* Pasadena, Calif.: Pacific Oaks College.

Jones, E., and J. Nimmo. 1994. *Emergent Curriculum.* Washington, D.C.: National Association for the Education of Young Children.

Kaagan, S. S. 1997. *Schooling with Imagination.* Washington, D.C.: Arts Education Partnership. Information can be found at the Web site address <http:/artsedge.kennedy-center.org/aep/kaaganpr.html>.

Kagan, S. 1989. *Cooperative Learning.* San Juan Capistrano, Calif.: Resources for Teachers.

Kalan, R. 1981. *Jump, Frog, Jump!* New York: Greenwillow Books.

Kamii, C. 1982. *Number in Preschool and Kindergarten.* Washington, D.C.: National Association for the Education of Young Children.

Kandel, E., and R. D. Hawkins. 1992. "The Biological Basis of Learning and Individuality," *Scientific American,* Vol. 267, No. 3, 78–86.

Katz, L. G. 1997. *Fostering Children's Social Competence: The Teacher's Role.* Washington, D.C.: National Association for the Education of Young Children.

Katz, L. G., and S. C. Chard. 1989. *Engaging Children's Minds: The Project Approach.* Norwood, N.J.: Ablex Publishing.

Katz, L. G.; D. Evangelou; and J. A. Hartman. 1990. *The Case for Mixed-Age Grouping in Early Education.* Washington, D.C.: National Association for the Education of Young Children.

Kilmer, S. J., and H. Hofman. 1995. "Transforming Science Curriculum," in *Reaching Potentials: Transforming Early Childhood Curriculum and Assessment,* Vol. 2. Edited by S. Bredekamp and T. Rosegrant. Washington, D.C.: National Association for the Education of Young Children.

BEST COPY AVAILABLE

Kindler, A. 1995. "Significance of Adult Input in Early Childhood Artistic Development," in *The Visual Arts and Early Childhood Learning*. Edited by C. M. Thompson. Reston, Va.: National Art Education Association.

Kinsman, C., and L. Berk. 1991. "Joining the Block and Housekeeping Areas: Changes in Play and Social Behavior," *Young Children*, Vol. 35, No. 7, 66–75.

Kostelnik, M.; A. Soderman; and A. Whiren. 1993. *Developmentally Appropriate Programs in Early Childhood Education*. New York: Macmillan.

Krauss, R. 1947. *The Growing Story*. New York: Harper and Row.

Kritchevsky, S.; E. Prescott; and L. Walling. 1977. *Planning Environments for Young Children: Physical Space* (Revised edition). Washington, D.C.: National Association for the Education of Young Children.

Lally, J. R. 1997. "Brain Development in Infancy: A Critical Period," *Bridges: California Head Start Collaboration Project*, Vol. 3, No. 1, 4–6.

Lary, R. T. 1990. "Successful Students," *Education Issues*, Vol. 3, No. 2, 11–17.

Lawton, M. 1994. "Violence Prevention Curricula: What Works Best?" *Education Week*, Vol. 14, No. 10.

Learning to Read: Comprehensive Reading Leadership Program for Board Members, Administrators, and Teachers. 1997. Sacramento: California State Board of Education.

"Learning to Read and Write: Developmentally Appropriate Practices for Young Children." 1998. A joint position statement of the International Reading Association and National Association for the Education of Young Children, in *Young Children*, Vol. 53, No. 4, 30–46.

Levy, A. K.; C. H. Wolfgang; and M. A. Koorland. 1992. "Sociodramatic Play as a Method for Enhancing the Language Performance of Kindergarten-Age Students," *Early Childhood Research Quarterly*, Vol. 7, No. 2, 245–62.

Levy, A. K.; L. Schaefer; and P. C. Phelps. 1986. "Increasing Preschool Effectiveness: Enhancing the Language Abilities of Three- and Four-Year-Old Children Through Planned Sociodramatic Play," *Early Childhood Research Quarterly*, Vol. 1, No. 2, 133–40.

Lionni, L. 1986. *It's Mine*. New York: Knopf Books for Young Readers.

Literature for History–Social Science. 1993. Sacramento: California Department of Education.

Literature for Science and Mathematics, K–12. 1993. Sacramento: California Department of Education.

Literature for the Visual and Performing Arts. 1996. Sacramento: California Department of Education.

Looking at Physical Education from a Developmental Perspective: A Guide to Teaching. 1995. A position paper of the Motor Development Task Force, National Association for Sport and Physical Education. Reston, Va.: American Alliance for Health, Physical Education, Recreation, and Dance

Loucks-Horsley, et al. 1989. *Developing and Supporting Teachers for Elementary School Science Education*. Washington, D.C.: The National Center for Improving Science Education.

Loughlin, C., and J. H. Suina. 1982. *The Learning Environment: An Instructional Strategy*. New York: Teachers College Press.

Lowenfeld, V., and W. L. Brittain. 1970. *Creative and Mental Growth* (Fifth edition). New York: Macmillan.

Mallory, B. 1992. "Is It Always Appropriate to Be Developmental? Convergent Models for Early Intervention Practices," *Topics in Early Childhood Special Education*, Vol. 11, No. 4, 1–12.

Martin, B. 1983. *Brown Bear, Brown Bear, What Do You See?* New York: Holt.

Martin, B. 1987. *Knots on a Counting Rope*. New York: Holt.

Marzano, R. J., and J. S. Marzano. 1988. *A Cluster Approach to Elementary Vocabulary Instruction*. Newark, Del.: International Reading Association.

Masten, A. 1994. "Resilience in Individual Development: Successful Adaptation Despite Risk and Adversity," in *Educational Resilience in Inner-City America: Challenges and Prospects*. Edited by M. Wang and E. Gordon. Hillsdale, N.J.: Erlbaum.

Mathematics Content Standards for California Public Schools, Kindergarten Through Grade Twelve. 1998. Sacramento: California Department of Education. Information can be found at the Web site address <http://www.cde.ca.gov.

Mathematics for the Young Child. 1990. Edited by J. M. Payne. Reston, Va.: The National Council for Teachers of Mathematics, Inc.

Mathematics Framework for California Public Schools, Kindergarten Through Grade Twelve. 1999. Sacramento: California Department of Education.

Mathematics Program Advisory. 1996. Sacramento: California Department of Education. Information can be found at the Web site address <http://www.cde.ca.gov/cilbranch/eltdiv/mathadv.htm>.

McCracken, J. B. 1993. *Valuing Diversity: The Primary Years.* Washington, D.C.: National Association for the Education of Young Children.

McDonnell, A., and M. Hardman. 1988. "A Synthesis of 'Best Practice' Guidelines in Early Childhood Services," *Journal of the Division for Early Childhood,* Vol. 12, 328–41.

McPhail, D. 1980. *Pig, Pig Grows Up.* New York: Dutton.

Meisels, Samuel. 1999. "Assessing Readiness," in CIERA Report No. 3-002. Ann Arbor: University of Michigan. Information can be found at the Web site address <www.ciera.org>.

Miller, J. 1985. "Teaching Map Skills: Theory, Research, Practice," *Social Education,* Vol. 49, 30–33.

Moore, G. T. 1985. "State of the Art in Play Environments," in *When Children Play.* Edited by J. L. Frost and S. Sunderlin. Wheaton, Md.: Association for Childhood Education International.

Morris, A. 1989. *Bread, Bread, Bread.* New York: Lothrop.

Morrow, L. M. 1990. "Preparing the Classroom Environment to Promote Literacy During Play," *Early Childhood Research Quarterly,* Vol. 5, No. 4, 537–54.

Mother–Child Interaction and Cognitive Outcomes Associated with Early Child Care: Results of the NICHD Study. 1997. Bethesda, Md.: National Institute of Child Health and Human Development.

Moving into the Future: National Physical Education Standards: A Guide to Content and Assessment. 1995. Reston, Va.: National Association for Sport and Physical Education.

Myhre, S. M. 1993. "Enhancing Your Dramatic Play Area Through the Use of Prop Boxes," *Young Children,* Vol. 48, No. 5, 6–11.

Nagy, W. 1988. *Teaching Vocabulary to Improve Reading Comprehension.* Newark, Del.: International Reading Association.

Nagy, W.; P. Herman; and R. Anderson. 1985. "Learning Words from Context," *Reading Research Quarterly,* Vol. 19, 304–30.

National Assessment of Educational Progress Integrated Reading Performance Record (NAEP/IRPR). 1995. Washington, D.C.: U.S. Department of Education (National Center for Education Statistics).

National Center for Accelerated Schools Project. 1998. Stanford, Calif.: Stanford University. Information can be found at the Web site address <http://www.stanford.edu/group/ASP/natlcenter.html>.

National Education Goals Report: Building a Nation of Learners. 1991. Washington, D.C.: National Education Goals Panel.

National Education Goals Report: Building a Nation of Learners. 1997. Washington, D.C.: National Education Goals Panel.

National Health Education Standards: Achieving Health Literacy. 1995. Atlanta: American Cancer Society.

National Science Education Standards. 1996. Washington, D.C.: National Academy Press (National Committee on Science Education Standards and Assessment, National Research Council).

National Standards for Civics and Government. 1994. Calabasas, Calif.: Center for Civics Education.

National Standards for History for Grades K–4: Expanding Children's World in Time and Space. 1994. Los Angeles: University of California (National Center for History in the Schools).

Nelson, J., and H. S. Glenn. 1992. *Time-Out Abuses and Effective Use* (Second edition). Fair Oaks, Calif.: Sunrise Press.

A New Generation of Evidence: The Family Is Critical to Student Achievement. 1994. Edited by A. T. Henderson and N. Berla. Columbia, Md.: National Committee for Citizens in Education.

Nitschke, N. 1998. *Leaping into Literacy Centers.* Granite Bay, Calif.: N.p. (Author can be reached at 6785 Country Court, Granite Bay, CA 95746.)

Nutrition Education: Choose Well, Be Well—A Curriculum Guide for the Preschool and Kindergarten. 1982. Sacramento: California Department of Education.

Nutrition Education: Choose Well, Be Well—A Curriculum Guide for the Primary Grades. 1982. Sacramento: California Department of Education.

Ochs, C. P. 1991. *Moose on the Loose.* Minneapolis: Carolrhoda Books.

Opportunity-to-Learn Standards for Music Instruction: Grades PreK–12. 1994. Reston, Va.: Music Educators National Conference.

Organizing a Successful Parent Center. 1994. Sacramento: California Department of Education.

Outcomes of Quality Physical Education Programs. 1992. Reston, Va.: National Association for Sport and Physical Education.

Ovando, C., and V. Collier. 1985. *Bilingual and ESL Classrooms.* New York: McGraw-Hill.

Paivio, A. 1969. "Mental Imagery in Associative Learning and Memory," *Psychological Review,* Vol. 76, 241–63.

Paley, V. 1990. *The Boy Who Would Be a Helicopter.* Cambridge: Harvard University Press.

Palincsar, A. S.; A. L. Brown; and J. C. Campione. 1993. "First Grade Dialogues for Knowledge Acquisition and Use," in *Contexts for Learning: Sociocultural Dynamics in Children's Development.* Edited by E. A. Forman, N. Minick, and C. A. Stone. Oxford: Oxford University Press.

Perfetti, C., et al. 1987. "Phonemic Knowledge and Learning to Read Are Reciprocal: A Longitudinal Study of First Grade Children," *Merrill-Palmer Quarterly,* Vol. 33, 283–319.

Pflau, S. W., et al. 1980. "Reading Instruction: A Quantitative Analysis," *Educational Researcher,* Vol. 9, 12–18.

Physical Ability and Well-Being. 1986. Edited by V. Seefeldt. Reston, Va.: American Alliance of Health, Physical Education, Recreation, and Dance.

Physical Education Framework for California Public Schools, Kindergarten Through Grade Twelve. 1994. Sacramento: California Department of Education.

Piaget, J. 1952. *The Origins of Intelligence in Children.* New York: Norton.

Piaget, J. 1954. *The Construction of Reality in the Child.* New York: Ballantine Books.

Piaget, J. 1962. *Play, Dreams, and Imitation in Childhood.* New York: Norton.

Piaget, J. 1969a. *The Language and Thought of the Child.* New York: World Publishing.

Piaget, J. 1969b. *The Moral Judgment of the Child.* New York: World Publishing.

Pinnell, G. S., and A. McCarrier. 1994. "Interactive Writing—A Transition Tool for Assisting Children in Learning to Read and Write," in *Getting Reading Right from the Start: Effective Early Literacy Interventions.* Edited by E. Hiebert and B. Taylor. Boston: Allyn and Bacon.

Pinnell, G. S., and I. S. Fountas. 1998. *Word Matters: Teaching Phonics and Spelling in the Reading/Writing Classroom.* Portsmouth, N.H.: Heinemann.

Pinnell, G. S., et al. 1995. *Listening to Children Read Aloud.* Washington, D.C: U.S. Department of Education.

Plomin, R. 1994a. *Genetics and Experience: The Interplay Between Nature and Nurture.* Thousand Oaks, Calif.: Sage.

Plomin, R. 1994b. "Nature, Nurture, and Social Development," *Social Development,* Vol. 3, 37–53.

Prelude to Performance Assessment in the Arts, Kindergarten Through Grade Twelve. 1993. Sacramento: California Department of Education.

Preventing Early School Failure: Research, Policy, and Practice. 1994. Edited by R. E. Slavin, N. L. Karweit; and B. A. Wasik. Boston: Allyn and Bacon.

Preventing Reading Difficulties in Young Children. 1998. Edited by C. E. Snow, M. S. Burns, and P. Griffin. Washington, D.C.: National Academy Press.

Raines, S., and R. J. Canady. 1990. *The Whole Language Kindergarten.* New York: Teachers College Press.

Ramsey, P. G. 1987. *Teaching and Learning in a Diverse World: Multicultural Education of Young Children.* New York: Teachers College Press.

Ramsey, R. 1988. "Designing Play Environments for Preschool and Kindergarten Children," in *Play as a Medium for Learning and Development.* Edited by D. Bergen. Portsmouth, N.H.: Heinemann.

Ravitch, D. 1987. "Tot Sociology, or What Happened to History in the Grade Schools," *The American Scholar,* Vol. 56, 343–54.

Reaching Potentials: Appropriate Curriculum and Assessment for Young Children, Vol. 1. 1992. Edited by S. Bredekamp and T. Rosegrant. Washington, D.C.: National Association for the Education of Young Children.

Reaching Potentials: Appropriate Curriculum and Assessment for Young Children, Vol. 2. 1995. Washington, D.C.: National Association for the Education of Young Children.

Read to Me: Recommended Literature for Children Ages Two Through Seven. 1992. Sacramento: California Department of Education.

Reading/Language Arts Framework for California Public Schools, Kindergarten Through Grade Twelve. 1999. Sacramento, California Department of Education.

Ready to Learn—Quality Preschools for California in the 21st Century: The Report of the Superintendent's Universal Preschool Task Force. 1998. Sacramento: California Department of Education.

Recommended Readings in Literature, Kindergarten Through Grade Eight (Revised annotated edition). 1996. Sacramento: California Department of Education.

Recommended Readings in Spanish Literature, Kindergarten Through Grade Eight. 1991. Sacramento: California Department of Education.

Reese, E. 1995. "Predicting Children's Literacy from Mother–Child Conversations," *Cognitive Development,* Vol. 10, No. 3, 381–405.

Reid, M. 1990. *The Button Box.* New York: Dutton Children's Books.

Resources and Instruction for Staff Excellence. Information can be found at the Web site address <http://www.risetraining.org>.

Richardson, K. 1988. "Assessing Understanding," *Arithmetic Teacher,* Vol. 35, No. 6, 39–41.

Richardson, K., and L. Salkeld. 1995. "Transforming Mathematics Curriculum," in *Reaching Potentials: Transforming Early Childhood Curriculum and Assessment,* Vol. 2. Washington, D.C.: National Association for the Education of Young Children.

Robison, H. F., and S. L. Schwartz. 1982. *Designing Curriculum for Early Childhood.* Boston: Allyn and Bacon.

Rosenshine, B., and C. Meister. 1994. "Reciprocal Teaching: A Review of the Research," *Review of Educational Research,* Vol. 64, 479–530.

Routman, R. 1991. *Invitations: Changing as Teachers and Learners, K–12.* Portsmouth, N.H.: Heinemann.

RPP International. 1998. *An Evaluation of K–12 Service Learning in California, Phase II: Final Report.* Emeryville, Calif.: RRP International.

Russell, S. J., and R. Corwin. 1990. "Sorting: Groups and Graphs, Grades 2–3," in *Used Numbers: Real Data in the Classroom.* Palo Alto, Calif.: Dale Seymour.

Saksie, J. 1994. *The Seed Song.* Cypress, Calif.: Creative Teaching Press.

Sameroff, A., and S. McDonough. 1994. "Educational Implications of Developmental Transitions: Revisiting the Five- to Seven-Year Shift," *Phi Delta Kappan,* Vol. 76, No. 3, 188–93.

Scarr, S., and K. McCartney. 1983. "How People Make Their Own Environments: A Theory of Genotype—Environment Effects," *Child Development,* Vol. 54, 425–35.

Schickedanz, J. 1999. *Much More Than the ABCs: The Early Stages of Reading and Writing.* Washington, D.C.: National Association for the Education of Young Children.

The School Music Program: A New Vision. 1994. Reston, Va.: Music Educators National Conference.

Schrader, C. T. 1989. "Written Language Use Within the Context of Young Children's Symbolic Play," *Early Childhood Research Quarterly,* Vol. 4, No. 2, 225–44.

Schrader, C. T. 1990. "Symbolic Play as a Curricular Tool for Early Literacy Development," *Early Childhood Research Quarterly,* Vol. 5, No. 1, 79–104.

Schwartzman, H. B. 1976. "Children's Play: A Sideways Glance at Make-Believe," in *The Anthropological Study of Play: Problems and Prospects.* Edited by D. F. Laney and B. A. Tindall. Cornwall, N.Y.: Leisure Press.

Schweinhart, L. J.; H. Barnes; and D. Weikart. 1993. *Significant Benefits: The High/Scope Perry Preschool Study Through Age 27.* Ypsilanti, Mich.: High/Scope Press.

Science and Technology Education for the Elementary Years: Frameworks for Curriculum and Instruction. 1989. Washington, D.C.: National Center for Improving Science Education.

Science Content Standards for California Public Schools, Kindergarten Through Grade Twelve. 1999. Sacramento: California Department of Education. Information can be found at the Web site address <http://www.cde.ca.gov>.

Science for All Americans: Project 2061 Report on Literacy Goals in Science, Mathematics, and Technology. 1989. Washington, D.C.: American Association for the Advancement of Science.

Science for Children: Resources for Teachers. 1988. Washington, D.C.: National Academy Press (National Science Resources Center).

Science Framework Addendum for California Public Schools. 1984. Sacramento: California Department of Education.

Science Framework for California Public Schools, Kindergarten Through Grade Twelve. 1990. Sacramento: California Department of Education.

"SCORE Science." 1998. Information can be found at the Web site address <http://www.score.k12.ca.us/>.

Seefeldt, C. 1995. "Transforming Curriculum in Social Studies," in *Reaching Potentials: Transforming Early Childhood Curriculum and Assessment,* Vol. 2. Edited by S. Bredekamp and T. Rosegrant. Washington, D.C.: National Association for the Education of Young Children.

Seifert, K. 1993. "Cognitive Development and Early Childhood Education," in *Handbook of Research on the Education of Young Children.* Edited by B. Spodek. New York: Macmillan.

Sendak, M. 1976. *Chicken Soup with Rice.* New York: Scholastic.

Shannon, G. 1982. *Dance Away.* New York: William Morrow.

Shany, M. T., and A. Biemiller. 1995. "Assisted Reading Practice: Effects on Performance for Poor Readers in Grades Three and Four," *Reading Research Quarterly,* Vol. 50, No. 3, 382–95.

Shefelbine, J. 1995. *Learning and Using Phonics in Beginning Reading.* New York: Scholastic.

Shepard, L. 1994. "The Challenges of Assessing Young Children Appropriately," *Phi Delta Kappan,* Vol. 76, No. 3, 206–12.

Shore, R. 1997. *Rethinking the Brain: New Insights into Early Development.* New York: Families and Work Institute.

Showers, P. 1991. *The Listening Walk.* New York: HarperCollins Children's Books.

Siegler, R. 1983. "Information Processing Approaches to Child Development," in *Handbook of Child Psychology,* Vol. 1. Edited by P. Mussen. New York: Wiley.

Slaby, R. W., et al. 1995. *Early Violence Prevention: Tools for Teachers of Young Children.* Washington, D.C.: National Association for the Education of Young Children.

Slavin, R., et al. 1994. "Success for All: A Comprehensive Approach to Prevention and Early Intervention," in *Preventing Early School Failure.* Edited by R. Slavin, N. Karweit, and B. Wasik. Boston: Allyn and Bacon.

Slepian, J., and A. Seidler. 1988. *The Hungry Thing.* New York: Scholastic.

Smilansky, S. 1968. *The Effects of Sociodramatic Play on Disadvantaged Preschool Children.* New York: Wiley.

Smilansky, S., and L. Shefatya. 1990. *Facilitating Play: A Medium for Promoting Cognitive, Socioemotional, and Academic Development in Young Children.* Gaithersburg, Md.: Psychosocial and Educational Publications.

Soderman, A. K. 1986. "Dealing with Difficult Young Children: Strategies for Teachers and Parents," in *Reducing Stress in Young Children's Lives.* Edited by J. B. McCracken. Washington, D.C.: National Association for the Education of Young Children.

Soto, L. 1991. "Research in Review: Understanding Bilingual/Bicultural Young Children," *Young Children,* Vol. 46, No. 2, 30–36.

Sroufe, L. A.; R. G. Cooper; and G. B. DeHart. 1992. *Child Development: Its Nature and Course* (Second edition). New York: Knopf.

Stahl, S. 1992. "Saying the 'P' Word: Nine Guidelines for Exemplary Phonics Instruction," *The Reading Teacher,* Vol. 45, No. 8, 618–25.

Stanovich, K. E. 1993. "Does Reading Make You Smarter? Literacy and the Development of Verbal Intelligence," in *Advances in Child Development and Behavior,* Vol. 25. Edited by H. Reese. San Diego: Academic Press.

Starting Out Right: A Guide to Promoting Children's Reading Success. 1999. Edited by M. S. Burns, P. Griffin, and C. E. Snow. Washington, D.C.: National Academy Press.

Sternberg, R. J. 1984. "How Can We Teach Intelligence?" *Educational Leadership,* Vol. 42, No. 1, 38–48.

Stone, A., and S. J. Russell. 1990. "Counting: Ourselves and Our Families, K–1," in *Used Numbers: Real Data in the Classroom.* Palo Alto, Calif.: Dale Seymour.

Strickland, D. 1994. "Educating African American Learners at Risk: Finding a Better Way," *Language Arts,* Vol. 71, 328–36.

Strong, R. W.; F. Silver; and R. Hanson. 1985. "Integrating Teaching Strategies and Thinking Styles with the Elements of Effective Instruction," *Educational Leadership* (May), 9–15.

Sulzby, E.; W. H. Teale; and G. Kamberelis. 1989. "Emergent Writing in the Classroom: Home and School Connections," in *Emerging Literacy: Young Children Learn to Read and Write.* Edited by D. S. Strickland and L. M. Morrow. Newark, Del.: International Reading Association.

Teaching Reading: A Balanced, Comprehensive Approach to Teaching Reading in Prekindergarten Through Grade Three. 1996. Sacramento: California Department of Education.

Teale, W. H. 1990. "Developmentally Appropriate Assessment of Reading and Writing in the Early Childhood Classroom," *The Elementary School Journal,* 173–83.

Temple, C., et al. 1992. *The Beginnings of Writing* (Third edition). Needham Heights, Mass.: Allyn and Bacon.

Testing of Young Children: Concerns and Cautions. 1988. Pamphlet No. 582. Washington, D.C.: National Association for the Education of Young Children.

Thompson, C. M. 1994. *Art Image: Preschool.* Champlain, N.Y.: Art Image Publications.

Thompson, C. M. 1995. "Transforming Curriculum in the Visual Arts," in *Reaching Potentials: Transforming Early Childhood Curriculum and Assessment,* Vol. 2. Edited by S. Bredekamp and T. Rosegrant. Washington, D.C.: National Association for the Education of Young Children.

Thorkildsen, R., and M. Scott Stein. 1998. "Is Parent Involvement Related to Student Achievement? Exploring the Evidence," *News, Notes, and Quotes* (Phi Delta Kappa International), Vol. 42, No. 22.

Trelease, Jim. 1989. *The New Read-Aloud Handbook.* New York: Viking.

Tresselt, A. R. 1985. *The Mitten.* New York: Scholastic.

Tudge, J., and B. Rogoff. 1989. "Peer Influences on Cognitive Development: Piagetian and Vygotskian Perspectives," in *Interaction in Human Development.* Edited by M. H. Bornstein and J. S. Bruner. Hillsdale, N.J.: Lawrence Erlbaum.

Tudge, J., and D. Caruso. 1988. "Cooperative Problem Solving in the Classroom: Enhancing Young Children's Cognitive Development," *Young Children,* Vol. 44, No. 1, 46–57.

Unglaub, K. W. 1997. "What Counts in Learning to Count?" *Young Children* (May): 48–50.

Van Hoorn, J. L.; P. Nourot; B. Scales; and K. Alward. 1993. *Play at the Center of the Curriculum.* Columbus, Ohio: Merrill.

Vergeront, J. 1988a. *Places and Spaces for Preschool and Primary—Indoors.* Washington, D.C.: National Association for the Education of Young Children.

Vergeront, J. 1988b. *Places and Spaces for Preschool and Primary—Outdoors.* Washington, D.C.: National Association for the Education of Young Children.

Victor, E., and R. D. Kellough. 1997. *Science for the Elementary and Middle School.* Cleveland, Ohio: Merrill.

Visual and Performing Arts Framework for California Public Schools, Kindergarten Through Grade Twelve. 1996. Sacramento: California Department of Education.

Visual Order: The Nature and Development of Pictorial Representation. 1985. Edited by N. H. Freeman, and M. V. Cox. New York: Cambridge University Press.

Vygotsky, L. 1967. "Play and Its Role in the Mental Development of the Child," *Soviet Psychology,* Vol. 12, 3–10, 62–76.

Vygotsky, L. 1978. *Mind in Society: Development of Higher Psychological Processes.* Cambridge: Harvard University Press.

Warren, S. F., and A. P. Kaiser. 1986. "Generalization of Treatment Effects by Young Language-Delayed Children: A Longitudinal Analysis," *Journal of Speech and Hearing Disorders,* Vol. 51, 239–51.

Wasserman, S. 1990. *Serious Players in the Primary Classroom: Empowering Children Through Active Learning Experiences.* New York: Teachers College Press.

Wasserman, S., and J. W. Ivany. 1996. *The New Teaching Elementary Science: Who's Afraid of Spiders?* (Second edition). New York: Teachers College Press.

Weikart, P. S. 1997. *Movement Plus Rhymes, Songs, and Singing Games* (Second edition). Ypsilanti, Mich.: High/Scope Educational Research Foundation.

Werner, E. 1989. *Vulnerable But Invincible: A Longitudinal Study of Resilient Children and Youth.* New York: Adams, Bannister, and Cox.

White, S. H. 1965. "Evidence for a Hierarchical Arrangement of Learning Processes," in *Advances in Child Development and Behavior.* Edited by L. P. Lipsitt and C. C. Spiker. New York: Academic Press.

Whitmore, K. F., and M. G. Goodman. 1995. "Transforming Curriculum in Language and Literacy," in *Reaching Potentials: Transforming Early Childhood Curriculum and Assessment,* Vol 2. Edited by S. Bredekamp and T. Rosegrant. Washington, D.C.: National Association for the Education of Young Children.

Wieder, S., and S. I. Greenspan. 1993. "The Emotional Basis of Learning," in *Handbook of Research on the Education of Young Children.* Edited by B. Spodek. New York: Macmillan.

Willis, S. 1991. *Breaking Down the Grade Barriers: ASCD Update.* Alexandria, Va.: Association for Supervision and Curriculum Development.

Wilson, B., and M. Wilson. 1981. "The Use and Uselessness of Developmental Stages." *Studies in Art Education,* Vol. 34, No. 5, 4–5.

"Winning Teams for Young Children." 1996. Project developed by Resources and Instruction for Staff Excellence for the Mayerson Academy, Cincinnati. Information can be found at the Web site address <http://www.risetraining.org>.

Witkin, H. 1962. *Psychological Differentiation: Studies of Development.* New York: Wiley.

Wolery, M.; P. Strain; and D. Bailey. 1992. "Reaching Potentials of Children with Special Needs," in *Reaching Potentials: Appropriate Curriculum and Assessment for Young Children,* Vol. 1. Edited by S. Bredekamp and T. Rosegrant. Washington, D.C.: National Association for the Education of Young Children.

Wolf, J. M. 1994. "Singing with Children Is a Cinch!" *Young Children,* Vol. 49, No. 4, 20–25.

Wong Fillmore, L. 1991a. "Language and Cultural Issues in the Early Education of Language Minority Children," in *The Care and Education of America's Young Children: Obstacles and Opportunities.* Edited by S. L. Kagan. Chicago: University of Chicago Press.

Wong Fillmore, L. 1991b. "When Learning a Second Language Means Losing the First," *Early Childhood Research Quarterly,* Vol. 6, No. 3, 323–46.

Yopp, H. K. 1992. "Developing Phonemic Awareness in Young Children." *The Reading Teacher,* Vol. 45, No. 9, 693–703.

Yopp, H. K. 1995a. "Teaching Reading," *The Reading Teacher,* Vol. 48, No. 6, 538–43.

Yopp, H. K. 1995b. "A Test for Assessing Phonemic Awareness in Young Children," *The Reading Teacher,* Vol. 49, No. 1, 20–28.

Young Children. 1964–present. An education journal. Washington, D.C.: National Association for the Education of Young Children.

Young Children on the Grow: Healthy Activity and Education in the Preschool Setting. 1991. Edited by C. Hendricks. Washington, D.C.: ERIC Clearinghouse on Teaching and Teacher Education.

Zubrowski, B. 1979. *Bubbles.* Boston: Little, Brown.

Zurnmuelen, M. 1990. *Studio Art: Praxis, Symbol, Presence.* Reston, Va.: National Art Education Association.

Index

active learning, 1, 7, 9, 13, 19, 20, 37, 39, 44, 50, 69, 74, 76, 81, 90, 95, 102, 111

assessment, evaluation, 19, 21, 24–26, 31, 38, 40, 41, 43, 44, 57, 58, 61–68, 71, 74, 75, 79, 81, 86, 87, 89, 90, 93, 98, 99, 102, 107, 111, 113

balanced curriculum, 20–22, 33, 39, 43, 44, 46, 56, 61, 76, 81, 82

career education, 77, 86, 93, 106, 107, 108

centers (learning or activity), 5, 14, 17, 20, 22, 24, 25, 54, 61, 78, 90, 92, 93, 97, 102, 107

choice, 9, 11, 14, 17, 20–25, 28, 35, 37, 52, 64, 76, 79, 96, 98

collaboration. *See* cooperation

community service. *See* service-learning

continuity. *See* transitions

conversation. *See* speech

cooperation, collaboration, partnerships, 2, 11, 13, 14, 19, 27, 28, 30, 32–35, 41, 65, 69, 73–75, 77, 81, 92, 96, 102, 103, 106, 110, 112, 113

culture, 2, 7, 9, 11, 14, 27, 30, 33, 36, 43, 45, 56, 67, 68, 69, 75–79, 86, 90, 92, 97, 98, 101, 103, 110, 111

curriculum integration. *See* integration

curriculum web. *See* web

direct instruction, 9, 12, 22, 24, 25, 33, 48, 51, 53, 70, 75, 86, 107

discussion. *See* speech

disposition, 11, 22, 28–31, 62, 89, 106, 107, 109

diversity, 7, 11, 13, 33, 34, 56, 67, 68, 78, 86, 107, 110

dramatic play. *See* sociodramatic play

emotional development. *See* social and emotional development

English language learners, 34, 44, 50, 51, 53, 54, 56, 60, 61, 65, 67, 68, 74

environment, 9–11, 13, 14, 16, 17, 32, 37, 43, 44, 48, 49, 56, 61, 68, 70, 77, 79, 81, 97, 109

evaluate. *See* assessment

expectations. *See* standards

exploration, 12, 19, 21, 24, 28, 32, 37, 45, 69, 71, 73, 75, 76, 81, 84–86, 90–92, 95–97

families, parents, guardians, 8–12, 14, 17, 25, 28, 34–36, 38, 40, 43, 44, 49, 50, 53, 54, 56, 58, 59, 60, 62–65, 67–69, 71, 76, 77, 81, 85, 93, 98, 102, 103, 107, 110–113

gardening, 16, 32, 70, 109

grouping, 20–22, 24–26, 34, 45, 48, 50–54, 56, 60, 64, 66, 74, 75, 78, 85, 86, 90, 93, 96, 109, 111

guardians. *See* parents

health, 2, 11, 12, 20, 24, 25, 67, 69–71, 108, 109, 111

homework, 25, 56, 66

individualization, 10, 20, 22, 24–26, 31, 60, 71, 74, 101, 102, 110

initiation, 14, 19, 20, 28, 30, 74, 106

integration of curriculum, 11, 19, 21, 22, 24, 25, 37, 39, 44, 46, 61, 67, 75, 77, 81, 85, 89, 92, 96, 97, 101–103, 107, 108–109

BEST COPY AVAILABLE

intervention, 8, 10, 21, 43, 45, 47, 63–67, 87, 111

learning goals. *See* standards

listening, 14, 24, 28, 36, 44, 45, 47, 50, 63, 64, 111

making-words activity, 20, 46, 50, 54, 57, 61, 62

mixed-age (multiage) grouping, 34, 67

motivation, 6, 10, 12, 35, 44, 58, 102

nutrition, 11, 20, 21, 67, 69, 70, 79, 90, 107, 108, 111

oral language. *See* speech

parents. *See* families

partnerships. *See* cooperation

persistence, 10, 22, 23, 30, 89

perspectivism, 9, 11, 17, 20, 29, 33, 34, 75, 76, 78, 81, 83, 90, 92

phonemic awareness, 20, 22, 24, 25, 46–48, 50, 58, 62, 63, 111

play, 6, 8, 10–12, 17, 19, 21, 25, 28, 29, 31–34, 35, 37, 58, 79, 90, 98, 102, 107

practice, 10, 11, 29, 31, 32, 35, 43, 44, 50, 53, 54, 56, 71, 73, 74, 82, 83

problem solving, 9, 10, 29–31, 38, 69, 70, 73–75, 81–85, 87, 89, 99, 110

professional development, 3, 12, 41, 67, 112, 113

projects, 11, 16, 17, 22–24, 28, 31–34, 60, 74, 102, 107

representation, 8, 10, 16, 17, 24, 75, 78, 82, 89, 90, 95, 96, 99, 103

responsibility, 13, 17, 18, 20, 22, 34–36, 75, 84

routines, 11, 19–21, 35, 70, 71, 76, 81, 82

scaffold, 10, 37, 38, 53, 56

service-learning, community service, 20, 92, 103, 108, 113

social and emotional development, 6, 8, 9, 24, 28, 30, 34, 58, 59, 68, 71, 74–76, 79, 86, 103, 111

sociodramatic play, props, dramatic play, 10, 14, 16, 17, 25, 31, 32, 44, 69, 70, 78, 109

special needs, 10, 14, 17, 21, 28, 29, 32, 38, 67, 73–76, 96, 110, 111

speech, discussion, oral language, 14, 22, 43–46, 49, 52, 53, 56, 57, 59, 60, 64, 65, 67, 68, 70, 74–76, 84, 87, 92, 93, 95, 96, 98, 107, 111

standards, expectations, learning goals, 1, 2, 7, 8, 17, 19–25, 27, 29, 30, 34, 36, 37, 39–41, 43, 44, 49, 53, 58, 62, 63, 65–69, 71, 75, 78, 81, 82, 84, 85, 87, 89, 90, 97, 99, 101–103, 106, 107, 110, 113

themes, 17, 24, 79, 102–108

transitions, continuity, 2, 21, 35, 37, 64, 65, 75–77, 87, 103, 111

vocabulary, 43–46, 51–57, 74, 76, 96, 106, 107, 109

web (curriculum), 104–107

Publications Available from the Department of Education

This publication is one of over 600 that are available from the California Department of Education. Some of the more recent publications or those most widely used are the following:

Item no.	Title (Date of publication)	Price
1372	Arts Work: A Call for Arts Education for All California Students: The Report of the Superintendent's Task Force on the Visual and Performing Arts (1997)	$11.25
1377	Assessing the Development of a First and a Second Language in Early Childhood: Resource Guide (1998)	10.75
1379	Assessing the Development of a First and a Second Language in Early Childhood: Training Manual (1998)	19.00
1436	California Department of Education Early Start Program Guide (1998)	10.00
1449	California Private School Directory, 1998-99 (1999)	17.50
1461	California Public School Directory, 1999	19.50
1459	California Safe Schools Assessment: 1997-98 Results (1999)	12.00
1438	California School Accounting Manual, 1998 Edition	28.50
1460	California Special Education Programs: A Composite of Laws (Twenty-first Edition) (1999)	no charge
1398	California Year-Round Education Directory, 1997-98 (1998)	10.00
1373	Challenge Standards for Student Success: Health Education (1998)	10.00
1409	Challenge Standards for Student Success: Language Arts Student Work Addendum (1998)	12.75
1298	Challenge Standards for Student Success: Mathematics (1997)	15.75
1435	Challenge Standards for Student Success: Physical Education (1998)	8.50
1429	Challenge Standards for Student Success: Visual and Performing Arts (1998)	12.50
1290	Challenge Toolkit: Family-School Compact (1997)	9.95*
1439	Check It Out! Assessing School Library Media Programs: A Guide for School District Education Policy and Implementation Teams (1998)	9.25
1375	Children Teaching Children (CD-ROM) (1997)	12.00
1187	A Child's Place in the Environment—Unit 1 (for grade one): Respecting Living Things (1994)	45.00†
1359	A Child's Place in the Environment—Unit 1 (for grade one): Respecting Living Things, Student Pages in Spanish (1997)	9.75‡
1281	Connect, Compute, and Compete: The Report of the California Education Technology Task Force (1996)	5.75
1285	Continuity for Young Children (1997)	7.50
1431	Early Identification/Early Intervention of Young Children with Emotional and Behavioral Issues: Trainer of Trainers Manual (1998)	30.00
1410	Ear-Resistible: Hearing Test Procedures for Infants, Toddlers, and Preschoolers, Birth Through Five Years of Age (1998)	10.00
1352	Educational Specifications: Linking Design of School Facilities to Educational Program (1997)	18.50
1389	English–Language Arts Content Standards for California Public Schools, Kindergarten Through Grade Twelve (1998)	9.25
1244	Every Child a Reader: The Report of the California Reading Task Force (1995)	5.25
1430	Every Little Bite Counts: Supporting Young Children with Special Needs at Mealtime (1998)	14.75
1388	First Look: Vision Evaluation and Assessment for Infants, Toddlers, and Preschoolers, Birth Through Five Years of Age (1998)	10.00
0804	Foreign Language Framework for California Public Schools, Kindergarten Through Grade Twelve (1989)	7.25
1355	The Form of Reform: School Facility Design Implications for California Educational Reform (1997)	18.50
1378	Fostering the Development of a First and a Second Language in Early Childhood: Resource Guide (1998)	10.75
1365	Fresh Fruit and Vegetable Photo Cards (1997)	30.00
1382	Getting Results, Part I: California Action Guide to Creating Safe and Drug-Free Schools and Communities (1998)	15.25
1408	Guide and Criteria for Program Quality Review: Elementary Grades (1998)	13.50
1268	Guidelines for Occupational Therapy and Physical Therapy in California Public Schools (1996)	12.50
1380	Health Careers Education 2000: A Program Guide (1998)	20.00
1064	Health Framework for California Public Schools, Kindergarten Through Grade Twelve (1994)	10.00
1322	Helping Your Child with Homework (1995)	6.25
0737	Here They Come: Ready or Not—Report of the School Readiness Task Force (summary report) (1988)	5.00
1284	History–Social Science Framework for California Public Schools, 1997 Updated Edition (1997)	12.50
1245	Improving Mathematics Achievement for All California Students: The Report of the California Mathematics Task Force (1995)	5.25
1147	It's Elementary! (Abridged Version) (1994)	Set of 10/6.00
1024	It's Elementary! Elementary Grades Task Force Report (1992)	9.00

---

* Other titles in the *Challenge Toolkit* series are *Outline for Assessment and Accountability Plans* (Item 1300), *Safe and Healthy Schools* (Item 1299), *School Facilities* (Item 1294), *Site-Based Decision Making* (Item 1295), *Service-Learning* (Item 1291), *Student Activities* (Item 1292), and *Student Learning Plans* (Item no. 1296). Call 1-800-995-4099 for prices and shipping charges.

† *A Child's Place* is available in six units (for grades one through six). Call 1-800-995-4099 for information on the price and title of each unit.

‡ Student Pages in Spanish are available for all six units of *A Child's Place*. Call 1-800-995-4099 for information on the price and title of each unit.

Prices are subject to change. Please call 1-800-995-4099 for current prices and shipping charges.

BEST COPY AVAILABLE

Item no.	Title (Date of publication)	Price
1442	Joining Hands: Preparing Teachers to Make Meaningful Home-School Connections (1998)	$13.25
1252	Just Kids: A Training Manual for Working with Children Prenatally Substance-Exposed (1996)	22.25
1266	Literature for the Visual and Performing Arts, Kindergarten Through Grade Twelve (1996)	10.25
1457	Mathematics Content Standards for California Public Schools, Kindergarten Through Grade Twelve (1999)	8.50
1384	Observing Preschoolers: Assessing First and Second Language Development (video) (1998)	12.00
1065	Physical Education Framework for California Public Schools, Kindergarten Through Grade Twelve (1994)	7.75
1314	Positive Intervention for Serious Behavior Problems: Best Practices in Implementing the Hughes Bill (Assembly Bill 2586) and the Positive Behavioral Intervention Regulations (1998)	14.00
1222	Practical Ideas for Teaching Writing as a Process at the High School and College Levels (1997)	18.00
1221	Practical Ideas for Teaching Writing as a Process at the Elementary School and Middle School Levels (1996 Revised Edition)	18.00
1289	Program Guidelines for Students Who Are Visually Impaired (1997 Revised Edition)	10.00
1344	Reading/Language Arts and English as a Second Language: Adoption Report (1997)	11.00
1462	Reading/Language Arts Framework for California Public Schools, Kindergarten Through Grade Twelve (1999)	17.50
1399	Ready to Learn—Quality Preschools for California in the 21st Century: The Report of the Superintendent's Universal Preschool Task Force (1998)	8.00
1171	Recommended Readings in Literature, Kindergarten Through Grade Eight, Revised Annotated Edition (1996)	10.00
1315	Reducing Exceptional Stress and Trauma: Curriculum and Intervention Guidelines (1997)	17.00
1316	Reducing Exceptional Stress and Trauma: Facilitator's Guide (1997)	18.00
1318	Room at the Table: Meeting Children's Special Needs at Mealtimes (video and guide) (1997)	17.00
1191	Safe Schools: A Planning Guide for Action (1995 Edition)	11.00
1150	School-Age Care in California: Addressing the Needs of Children, Families, and Society (1996)	13.00
0870	Science Framework for California Public Schools, Kindergarten Through Grade Twelve (1990)	9.50
1445	Science Safety Handbook for California Public Schools (1999)	17.50
1387	School District Organization Handbook (1998)	24.50
1411	School Nutrition Programs Guidance Manual (1998)	30.00
1402	School Safety—Addendum to Safe Schools: A Planning Guide for Action (1998)	8.25
1452	Service-Learning: Linking Classrooms and Communities: The Report of the Superintendent's Service Learning Task Force (1999)	7.00
1407	Steering by Results—A High-Stakes Rewards and Interventions Program for California Schools and Students: The Report of the Rewards and Interventions Advisory Committee (1998)	8.00
1277	Strategies for Success: A Resource Manual for SHAPE (Shaping Health as Partners in Education) (1996)	15.00
1383	Talking with Preschoolers: Strategies for Promoting First and Second Language Development (video) (1998)	12.00
1255	Taking Charge: A Disaster Preparedness Guide for Child Care and Development Centers (1996)	10.25
1276	Teaching Reading: A Balanced, Comprehensive Approach to Teaching Reading in Prekindergarten Through Grade Three (1996)	5.75
1261	Visual and Performing Arts Framework for California Public Schools, Kindergarten Through Grade Twelve (1996)	15.00

Orders should be directed to:

California Department of Education
CDE Press, Sales Office
P.O. Box 271
Sacramento, CA 95812-0271

Please include the item number and desired quantity for each title ordered. Shipping and handling charges are additional, and purchasers in California also add county sales tax.

Mail orders must be accompanied by a check, a purchase order, or a credit card number, including expiration date (VISA or MasterCard only). Purchase orders without checks are accepted from educational institutions, businesses, and governmental agencies. Telephone orders will be accepted toll-free (1-800-995-4099) for credit card purchases. *All sales are final.*

The *Educational Resources Catalog* contains illustrated, annotated listings of departmental publications, videos, and other instructional materials. Free copies of the *Catalog* may be obtained by writing to the address given above or by calling (916) 445-1260.

Prices are subject to change. Please call 1-800-995-4099 for current prices and shipping charges.

94-013 003-0102-97 003-0093-97 003-0071-98 7-99 10M

BEST COPY AVAILABLE